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That Man Haupt: a Biography of Herman Haupt.

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THAT MAN HAUPT: A BIOGRAPHY OF HERMAN HAUPT
Volume I

A Dissertation

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The Department of History

by
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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENT	ii
ABSTRACT	v
Chapter	
I. ORIGINS AND BEGINNINGS	1
II. LAYING THE GROUNDWORK	31
III. UP THE CORPORATE LADDER	61
IV. MANAGERIAL PROBLEMS	92
V. FINANCIAL SUCCESS	125
VI. INTO THE ABYSS	157
VII. TENACITY TRIUMPHS	195
VIII. LEGISLATIVE SUCCESS	232
IX. DISSENSION AND SUSPENSION	265

Volume II

X. HAUPT GOES TO WAR	312
XI. THE GENERAL DEMANDS REFORM	359
XII. FROM GENERAL TO CIVILIAN	400
XIII. THE INTERREGNUM	454
XIV. HAUPT RETURNS SOUTH	494
XV. HAUPT THE ENGINEER	522

XVI.	THE NORTHWEST	557
XVII.	SEMI-RETIREMENT	594
	BIBLIOGRAPHY	627
	VITA	654

ABSTRACT

Herman Haupt, born in Philadelphia in 1817, became one of the leading transportation specialists of the nineteenth century. Graduating from West Point in 1835, he combined a technical genius with a solid education in civil engineering to forge a distinguished career capitalizing, constructing, and managing the expanding American railroad network. Although he specialized in railroads, he also investigated the technical aspects of subjects as diverse as bridge theory and electricity and wrote numerous articles, pamphlets, and books which embody his findings.

After graduation, Haupt gained valuable engineering experience working on Pennsylvania improvement projects and in 1847 he was called by J. Edgar Thomson to relocate portions of the Pennsylvania Railroad's main line. Thomson was quick to note Haupt's aptitude and swiftly promoted him to be the road's first superintendent of transportation.

Haupt demonstrated that he had administrative abilities as well as engineering talent. However, his decisiveness and bluntness clashed with front office politics and he resigned in 1852 to take a job locating a railroad in Mississippi. By the spring of 1853 he was back on the Pennsylvania as chief engineer and guided the line to completion a year later. He retained this position until 1856 when he

became a member of the road's board of directors.

As the operation of the Pennsylvania settled into routine, Haupt invested heavily in coal and timber companies along the road, and in some cases took over their management. By 1856 he was a moderately wealthy man. In that year he assumed the responsibility for the capitalization and management of boring the Hoosac Tunnel in Massachusetts. He entered the contract with inadequate financial backing and after a six-year struggle with state politicians and his own partners, he was forced to suspend the work. The tunnel ruined Haupt; he left the work deeply in debt and a changed man, but without him the tunnel would not have been completed.

After the suspension in 1862, Haupt was one of the civilians called to Washington to aid the Union cause. He took charge of military railroad operations for the eastern theater and developed operating precedents that remained valid through World War I. He quickly rose to the rank of brigadier general, but was forced to resign in 1863.

The next seven years were the low point of Haupt's career. He returned to Massachusetts and vainly tried to extract compensation for his losses in the tunnel. Starting in 1870 he became in rapid succession chief engineer for Tom Scott's Shenandoah Valley Railroad, general manager for the Pennsylvania Railroad's interests in the South, chief engineer and designer of the first long distance

crude oil pipeline, and general manager of the Northern Pacific. Throughout the entire postwar period he continued trying to recoup his lost fortune without success. Until his death in 1905 he worked as a consulting engineer investigating various technical innovations and promoting those in which he had an interest.

As an engineer, entrepreneur, manager, and promoter, Haupt fulfilled the vital needs of the American economy for technical skills and risk capital. It was Haupt, and men like him, who provided these needs and contributed towards making the United States the preeminent industrial nation of the twentieth century.

CHAPTER I

ORIGINS AND BEGINNINGS

Herman Haupt was born the son of a bookkeeper in a wholesale grocery store and the proprietess of a dry goods store, on March 26, 1817, in the city of Philadelphia which numbered less than 110,000 people and depended upon mercantile and shipping interests for both growth and prosperity while only tenuously connected with other major cities over an inadequate network of roads. Haupt's career spanned almost the entire nineteenth century and by 1905, the year of his death, Philadelphia was connected with every city of any consequence in the country by an ever expanding railroad system, was home to one of the largest railroads in the country, possessed paved streets busy with the first wave of a growing number of automobiles, and contained a population ten times that of 1820.¹

¹Herman Haupt, "Memoirs of Herman Haupt up to the age of Twenty-One, When he Married," typewritten sixty-page manuscript written by Haupt in 1889, now in possession of his granddaughter, Mrs. Susan Haupt Adamson, of Washington, D.C., hereinafter cited as Haupt, "Memoirs"; J. D. B. DeBow, Statistical View of the United States: A Compendium of the Seventh Census (Washington: Beverley Tucker, 1854), p. 192, gives the population statistics for cities in 1820; Chester W. Wright, Economic History of the United States (1st ed.; New York: McGraw-Hill Book Company, Inc., 1941), p. 580; Philadelphia grew at almost the exact rate as the total population growth of the entire nation between 1820 and 1910.

Haupt was born and buried in Philadelphia, the city he loved, but a large portion of his adult life was spent improving the transportation facilities of other cities and regions, as diverse as Boston, Minneapolis, Vicksburg, the Pacific Coast and the Dakota Territory. This peripatetic engineer, possessed of an unyielding technical curiosity and genius coupled with unflagging energy, carved a career for himself that counted great successes as well as colossal failures, over a period of eighty-eight years. He investigated and mastered a wide variety of technical innovations and left his mark on their development, but he failed to share in the commercial exploitation of these ideas.

Haupt was first and foremost an engineer, a vocation for which he was eminently suited both by education and temperament, and which he pursued with zeal. He authored three books dealing with technical subjects, one of which was the result of completely original research and earned him his initial reputation as an engineer. He invented and developed an amazing variety of devices, ranging from a bridge truss to a rock drill, which he covered with over a dozen patents, but from which he failed to receive any remuneration. He knew personally many of the engineers and scientists of the nineteenth century, including Benjamin

Historical Statistics of the United States, Colonial Times to 1957 (Washington: U.S. Government Documents, 1960), p. 7.

Latrobe, Squire Whipple, J. P. Lesley, Asa Gray, Matthias Baldwin, and Henry R. Campbell. With these and a host of lesser known scientific men, Haupt carried on a spirited correspondence in an attempt to marshal the wisdom of "practical men" to overcome the ills besetting society. Haupt deeply believed that the intelligent application of scientific discoveries could benefit not only the discoverer, but all mankind. He foresaw the development of suburban areas and proposed to serve these areas with compressed air powered streetcars, devoid of both noise and noxious fumes. He developed plans for the improvement of navigation on the Ohio and Mississippi rivers, designed and constructed the first long-distance crude oil pipeline in the United States, investigated and patented a process for the preservation of wooden paving blocks for city streets, designed a pneumatic motor for street cars, experimented with new designs for elevated urban railroads, investigated the relative costs of electric, steam, and compressed air railroads, and pioneered in the manufacture and distribution of condensed milk. He also developed and patented a steam rock drill and a system of ventilation for mining and tunneling, investigated the long distance transmission of electricity, and took an interest in the substitution of flax and hemp for cotton during the Civil War. Although proof is lacking, Haupt probably examined and rode in an automobile at his first opportunity and undoubtedly at the age of

eighty-six read of the development of the airplane with great interest.

While Haupt's position in the front rank of nineteenth century engineers is undeniably assured, his role in the development of the American economy is less well defined. Haupt's reputation as an engineer and his experience with local railroads during the 1830's and 1840's qualified him for a position in the engineering corps of the Pennsylvania Railroad in the late 1840's. The then chief engineer and later president of that company, J. Edgar Thomson, took Haupt under his tutelage and appointed him to a managerial position when the road was opened.

Haupt's first experience in a corporate managerial capacity proved his skill in organization and command functions. He was one of the first in the railroad industry to compute the exact cost to the company of transporting commodities and recommended an elastic rate schedule attuned to local conditions and seasonal variations of shipments. In Cochran's terminology, Haupt became respected as an outstanding "professional manager."² But Haupt was not merely content to manage, and, while connected with the Pennsylvania Railroad, he invested in timber and coal

²Cochran sees both the "professional manager" and the "owner-manager" as distinct types of entrepreneurs with the critical distinction between the two being that the latter possessed substantial ownership in the properties he managed. Thomas C. Cochran, Railroad Leaders, 1845-1890; The Business Mind in Action (Cambridge, Mass.: Harvard University Press, 1953), p. 9.

companies in Pennsylvania and in a number of cases became, again in Cochran's terminology, an "owner manager." Haupt continued this dual role throughout the early 1850's, becoming chief engineer and then a member of the board of directors of the Pennsylvania Railroad while expanding his equity and managerial responsibilities in outside ventures. By 1855, Haupt was a relatively wealthy individual, with holdings approaching a half a million dollars.

During the year 1855, Haupt slowly relinquished his responsibilities as a salaried official of the Pennsylvania and began to direct almost all his attention toward the management and expansion of his coal and timber interests. In this sense he slowly evolved toward becoming a "general entrepreneur." It was in this capacity that he expanded his horizons and undertook the greatest task of his career, the digging of the Hoosac Tunnel. Aside from the technical challenge, there appeared to be large profit in the Hoosac contract and in pursuit of this, Haupt withdrew much of his equity from his Pennsylvania interests and invested it in the Hoosac. If Haupt had succeeded in Massachusetts, he may well have risen to national prominence in financial circles, for he appeared as well prepared for the role as any. But the Hoosac drew Haupt out of his regional element and into unfamiliar political and financial surroundings which he neither investigated sufficiently nor possessed the capital resources to master.

Haupt's failure in the Hoosac contract marked the turning point of his financial and professional career. On the positive side, he carried the work for six years, long enough to demonstrate that the tunnel was practical and to insure that the state of Massachusetts would be compelled to finish the work, which may not have been the case had Haupt declined to risk his capital in this speculative venture. But for Haupt the failure brought nothing but personal misery. He was still a young man of forty-four when he relinquished the contract, and with the exception of fifteen months during the Civil War, he spent the next eight years unemployed, seeking redress from the Massachusetts legislature. Thus, the potentially most productive years of his life were wasted, his professional career stalled, and his reputation among businessmen suffered. He emerged from the ordeal deeply in debt, from which he was never able to completely extricate himself, and although he managed to borrow and invest in a number of concerns after the war, he never again rose to the promise of the entrepreneurial role he assumed during the 1850's.

Haupt was typical of the nation builders of the nineteenth century, pragmatic, intelligent, technically curious, willing to undertake capital risk in search of profit, and possessed of a vast inner drive. He failed in his larger quest to combine his technical skills with the requisite capital needed to execute his ideas, as did many

other men, but he was not a smaller man for it. His post-Hoosac career would have been sufficient for many lesser men, but to Haupt it never measured up to what he considered his abilities. He did not die a happy man, nor a famous one, but he left his mark.

Haupt was in many ways both a faithful product and a contradiction to the legacy left him by his ancestors, the first of whom came to America in 1738. Haupt's great-grandfather Sebastian, from the town of Creuzenach in the Palatinate, in southern Germany, arrived in that year on the ship Glasgow out of Rotterdam.³ He was a cooper by trade and soon after landing in Philadelphia sought out and purchased wooded land. By 1750 he owned 125 acres in Philadelphia County, was married, and had a family of three children. In 1764 Sebastian purchased a grist mill and 108 acres at Upper Dublin, Pennsylvania, and settled there

³"The Haupt Family in Bucks and Philadelphia Counties," 1931, in the Herman Haupt Papers (Yale University Library, New Haven, Connecticut), Box 19, p. 1. This five-page typewritten manuscript was probably written by the Reverend William H. Haupt, author of The Haupt Family in America (Chanton, Ia.: n.p., 1924). The manuscript will hereinafter be cited as William Haupt, "The Haupt Family." References to the Haupt Papers, unless otherwise noted, denote those held by the Yale University Library. See also Reverend William H. Haupt to Mrs. Florence Haupt Urner, September 10, 1927, in the Herman Haupt Papers (Collection of Mrs. Susan Haupt Adamson), hereinafter cited as Adamson Collection; Herman Haupt Chapman to Edward Haupt, December 21, 1932, Adamson Collection; Herman Haupt Chapman, "Biography of Herman Haupt," Haupt Papers, Boxes 26, 27, Chapter I, p. 1, typewritten manuscript is paged anew each chapter; hereinafter cited as Chapman, "Haupt."

permanently.⁴ Sometime in the intervening twenty-six years after his arrival, he changed the spelling of his name to Houpt to accord with the English phonetic pronunciation.⁵

Sebastian Houpt's only son, John Henry Sebastian Houpt, was born in 1744, and continued the family tradition of thrift and hard work.⁶ In 1766 he married Maria Catherine Younghen (from the German, Junghen), the daughter of Herman and Maria Magdalena Younghen, who purported to be a princess.⁷ The Younghen family was descended from French Huguenots who left France during the religious wars of the seventeenth century and settled in the Palatinate before emigrating to the United States in 1737, where they became citizens of substantial worth in a rather short time.⁸ John Henry Sebastian operated his father's grist mill and a small sawmill until 1770 when he purchased mill property from his father-in-law.⁹ By 1787 Henry was shown on the

⁴William Haupt, "The Haupt Family," p. 1.

⁵Haupt, "Memoirs," p. 16; Chapman, "Haupt," I, p. 3.

⁶Lewis M. Haupt, son of Herman Haupt, to Fred Chapman, son-in-law of Herman Haupt, n.d., Haupt Papers, Box 19.

⁷Mrs. Susan Haupt Adamson to author, May 24, 1968, and July 31, 1968. All the principal sources mention the possibility of royal blood in the Younghen lineage, but none display any certainty. Haupt himself did not believe it. Haupt, "Memoirs," introduction.

⁸Mrs. Susan Haupt Adamson to author, July 31, 1968.

⁹William Haupt, "The Haupt Family," p. 3.

tax rolls as possessing 520 acres, 2 houses, a distillery, grist mill, sawmill, and horses and cattle all located in three Pennsylvania counties.¹⁰

His family included ten children, five of whom, perhaps with an urging from their restless Huguenot blood, left Pennsylvania and scattered in all four compass directions. Samuel went to the Mohawk Valley in New York as a farmer, Sebastian and Henry went to Alabama from where Sebastian later migrated farther west into Texas. Abraham and Elizabeth went to Centerville, Illinois. The remaining five children lived in the vicinity of Philadelphia. There a daughter, Sarah, married Abraham Piesch, a wealthy Philadelphia merchant and shipowner, whose fortunes were to become closely entwined with those of Jacob, Herman Haupt's father. John amassed a fortune in land, grist mills, and money lending. Catherine married a prosperous farmer in Bucks County, and Mary married and settled in central Pennsylvania. The third eldest son, John Jacob, went to seek his fortune in Philadelphia as a clerk.¹¹

Herman's father, John Jacob, left his home near Durham in 1791 and learned the trade of an accountant and clerk in the port city.¹² Jacob, as he was called, was

¹⁰Chapman, "Haupt," I, p. 4.

¹¹William Haupt, "The Haupt Family," pp. 3-4; Chapman, "Haupt," I, pp. 4-5.

¹²Ibid., pp. 5-6.

born in April of 1776 and did not marry until he was forty years old. His bride, Margaretta Wiall Snyder, was also a member of the Haupt family, being the granddaughter of one Nicholas Haupt, who emigrated to the United States from the Palatinate in 1754. Margaretta married Andrew Snyder in 1805 and ten years later was granted a divorce for his "excessive ill conduct and gross infidelity."¹³ There was one son, Charles Jacob Snyder, born in 1810, and one adopted son, Benjamin Campbell Lotier, born and adopted in 1808. One year after Margaretta's divorce, she married Jacob.¹⁴

Jacob was declining both physically and financially by 1816.¹⁵ His fortunes were further adversely affected by international events over which he had no control. He had gone into partnership with his brother-in-law, Abraham Piesch, prior to 1801 and was actively engaged in the China

¹³Mrs. Susan Haupt Adamson to author, July 31, 1968; "Certificate of Marriage," May 5, 1816, Haupt Papers, Box 1; Lewis M. Haupt to Fred Chapman, n.d., Haupt Papers, Box 19.

¹⁴Charles Jacob Snyder, Herman's half-brother, left home by 1828. He married Emily Mestayer in Boston in 1834 and died May 15, 1851, in Weaversville, California. Since Charles had been in California for two and one-half years, it may be surmised that he was lured to the West by the prospect of gold. Benjamin Campbell Lotier Snyder, Haupt's other half-brother, joined the Navy prior to 1828 and never returned home. The family made inquiries at the War Office in an attempt to locate him, but without the date and place of his enlistment, the War Office could do nothing. Mrs. Susan Haupt Adamson to author, July 31, 1968; Lewis Haupt to Fred Chapman, n.d., Haupt Papers, Box 19; Chapman, "Haupt," I, p. 8.

¹⁵Chapman, "Haupt," I, p. 8; Haupt, "Memoirs," p. 8.

trade, but during the undeclared war with France, between 1798-1800, French warships captured and destroyed many American trading vessels, among them ships belonging to the Piesch-Haupt partnership. The convention between the United States and France, signed in September, 1800, released France from paying claims for neutral shipping captured or sunk by her prior to 1800 and gave rise to the French Spoliation Claims against the United States government from Americans seeking redress. The Piesch-Haupt partnership sought restitution for their losses¹⁶ but the claims dragged through the courts for years¹⁷ and by the time they were finally settled all the pertinent papers had been lost.¹⁸

When John Henry Sebastian, Jacob's father, died in 1809, a portion of his substantial estate devolved upon each of the children and Jacob, along with his brothers Samuel, Henry, and Sebastian, invested their legacy in the Piesch shipping interests. Their final piece of misfortune came with the War of 1812. At the outbreak of the war, the

¹⁶Chapman, "Haupt," I, pp. 6-7.

¹⁷The U.S. Court of Claims did not make a final settlement until 1915. Samuel Flagg Bemis, A Diplomatic History of the United States (New York: Henry Holt and Company, 1945), p. 114n; Thomas A. Bailey, A Diplomatic History of the American People (7th ed.; New York: Appleton-Century-Crofts, 1964), pp. 97-98; E. Wilson Lyon, "The Franco-American Convention of 1800," Journal of Modern History, XII (1940), 329-333.

¹⁸Chapman, "Haupt," I, p. 7.

partnership had fifteen vessels at sea in the Oriental trade, and all were promptly captured off Philadelphia by the blockading British fleet.¹⁹ This ended the shipping interests of Jacob, but he continued to engage in the mercantile business in Philadelphia with little success.²⁰

In 1825 Jacob formed a partnership with Henry D. Steever, who later became one of Herman Haupt's partners in the Hoosac Tunnel contract,²¹ and opened a wholesale and retail grocery store, but the partnership lasted only about two years. With Jacob's eyesight failing rapidly and his general health deteriorating, he sold his interest in the store and bought a small crossroads farm and store in New Jersey near the village of Woodville.²²

Jacob and Margaretta had five children when they moved from Philadelphia. Herman, the eldest, seven years younger than his half-brother, Charles, was born in 1817 and was followed in 1819 by Ellen who lived only three years, by Henrietta Bennett in 1821, by Thomas Jefferson in 1823, and by Jacob Lewis Leeds in 1826. The last child, Elizabeth, was born near Woodville in 1828 just weeks before Jacob's death.²³

¹⁹Ibid. ²⁰Ibid., p. 8.

²¹Haupt, "Memoirs," p. 7.

²²Ibid., p. 8; Chapman, "Haupt," I, p. 9.

²³Henrietta Bennett, born April 6, 1821, became an ardent Francophile. She married Achille Lucian Archambault,

The legacy accruing to Herman Haupt from his forebears was not unlike that possessed by many other Americans of the period, particularly those in Pennsylvania. He was of rural antecedents, second generation immigrant parentage, German and French stock, and above average wealth.²⁴ The family's assimilation into the predominant English culture

whose father had been on Napoleon's staff and accompanied Napoleon to St. Helena. They had five children, including a daughter, Anna Margaretta, who Herman sent to Paris to study art. Anna returned to Philadelphia, became a successful artist and lived to the age of ninety-nine. Henrietta and Achille lived in West Philadelphia and maintained close contact with Herman and his family. Henrietta died September 16, 1913, at the age of ninety-two. Thomas Jefferson, born July 4, 1823, was indentured to a silversmith while Herman was at West Point. Specimens of his handiwork are still in the family. He never married and died aboard ship on a return trip from California in 1856, and was buried at sea. Jacob Lewis Leeds, born April 20, 1826, was the closest of the family to Herman. Lewis worked for Herman at the Oakridge Select Academy, taught with him at Gettysburg College, and became general ticket agent of the Pennsylvania Railroad. Lewis died September 17, 1898. Mary Elizabeth, born August 3, 1828, became a school teacher and never married. She taught at a private girls' school in Philadelphia. She died while on vacation in Maine on July 24, 1867, when the sailboat in which she was a passenger capsized in a storm. Mrs. Susan Haupt Adamson to author, May 24, 1968, and July 30, 1968; Chapman, "Haupt," I, pp. 8-9.

²⁴Only about seven percent of the total population were classified as urban in 1820. Historical Statistics of the United States, Colonial Times to 1957, p. 9. Reliable statistics for immigrant population and wealth per capita are lacking for the period, but the white population ". . . was largely of western European descent, with by far the greatest numbers having English, Scotch-Irish, or German forebears. Most Americans of 1815 were born in the United States, for immigration had been relatively slight since the Revolution." George Rogers Taylor, The Transportation Revolution, 1815-1860, Vol. IV: The Economic History of the United States (New York: Harper and Row, 1951), 3. It is probably safe to consider the family holdings as being above the national average throughout the period discussed.

had been particularly rapid since German was not spoken in the home. All sides of the family were Protestant, chiefly Lutheran and Episcopalian,²⁵ and had a history of heavy parental discipline.²⁶ Haupt differed from the norm principally by being born in an urban area of a mercantile father²⁷ in a home with no professed or practiced formal religion.²⁸

Haupt did not remember his early years in the city of Philadelphia as being his happiest as the family was dominated by a stern and exacting father with failing eyesight and health.²⁹ Although Haupt entered private schools prior to the age of nine, all his time outside of school was rigidly ordered. Before school Haupt had to shave his father, black his boots, then read the Congressional speeches to him from Poulson's Daily Advertiser, which was a particularly distasteful task to the young Haupt. Noon hours and after school time were reserved for helping his father wait on customers in the grocery store. This was a

²⁵Lewis Haupt to Fred Chapman, n.d., Haupt Papers, Box 19.

²⁶Haupt, "Memoirs," p. 7; Chapman, "Haupt," I, p. 4; William Haupt, "The Haupt Family," p. 4.

²⁷Only 3.3 percent of the labor force in Pennsylvania in 1820 was classified as working in commerce, as opposed to 67 percent in agriculture and 29.7 percent in manufacturing. Census for 1820 (Washington, D.C.: Gales and Seaton, 1821), Book I, n.p.

²⁸Haupt, "Memoirs," pp. 12, 30. ²⁹Ibid., p. 7.

Monday through Saturday routine.³⁰

It was the tiresome reading of the political news to his father that irritated Haupt the most. He took little interest in national politics until after his retirement, when he found time to think about political matters. During his long public and private career he often became enmeshed in political squabbles because of the nature of his engineering work and emerged from them with a generally low esteem of the quality of politicians and the give and take of political life. This was particularly true of Massachusetts politics and the Hoosac tunnel affair. It is obvious that whatever political interest Haupt's father possessed failed to be shared by his son.

Because of the elder Houpt's continually failing eyesight, which now required help in order to write, the family moved late in 1827 from Philadelphia to a small farm outside Woodville, New Jersey. Jacob operated a small crossroads store, and young Haupt worked on the farm, a job even more distasteful to him than the city mercantile work. The move also ended temporarily his education since there were no schools nearby.³¹

Haupt's youngest sister, Mary Elizabeth, was born on the farm on August 3, 1828.³² Less than a month after

³⁰Ibid. ³¹Ibid., pp. 8-9.

³²Mrs. Susan Haupt Adamson to author, May 24, 1968.

her birth, Jacob, in debt to his brother John, who had refused him another loan,³³ and driven by his inability to support his growing family, left on a trip to see his brother Samuel near Little Falls, New York.³⁴ On September 19, 1828, Margaretta received a letter informing her that Jacob had fallen ill aboard a steamer and was at a private dwelling in Albany, unable to speak or sit up.³⁵ Margaretta took Herman and the baby and travelled by steamboat to Albany, but Jacob died on September 30, a few days before their arrival.³⁶ His total estate consisted of his watch and some papers.³⁷

In later years Haupt candidly stated that his father's death ". . . was not a source of profound regret to me, but rather brought a feeling of relief." He was unable to recollect an instance of affection shown by Jacob toward his children or of ever being kissed by his father.³⁸

Returning to Philadelphia after his father's death, Haupt found himself with spare time for normal childhood

³³Ibid.; Jacob Houpt, Philadelphia, to John Houpt, Springfield, Pennsylvania, January 23, 1824, Haupt Papers, Box 1.

³⁴John Houpt, Herman's uncle, to W. P. Fasburgh, Albany, New York, October 4, 1828, Haupt Papers, Box 1.

³⁵Letter cited in Haupt, "Memoirs," pp. 9-10.

³⁶Ibid., p. 10; M. Boyd, Philadelphia, to John Houpt, October 24, 1828, Haupt Papers, Box 1.

³⁷Haupt, "Memoirs," p. 10. ³⁸Ibid., p. 11.

recreation and gained a reputation ". . . of being smart but decidedly mischievous."³⁹ He played the usual childish pranks such as running over the rooftops and disturbing the occupants,⁴⁰ but his pièce de résistance came during the winter of 1829. There was an unusually heavy fall of snow that winter, and Haupt engineered a huge slide in the street twelve feet high with steps leading to the top. Each evening the boys of the neighborhood threw water on the slide to ice its surface. With the advent of spring, all the snow melted except for this solid block of ice. The city authorities were forced to send out men with axes to chop it into pieces and throw it into the river to clear the street.⁴¹

But all was not levity in the Houpt household after the death of Jacob. Margaretta returned to Woodville to sell the farm and store, which she discovered had been heavily mortgaged, and on which she realized very little return.⁴² She auctioned off all the personal property of the family to raise money, but Jacob's brother attended the auction and claimed all the profits as payment for Jacob's loan. The family returned to Philadelphia penniless.⁴³

³⁹Herman Haupt, Herman's Wooing; A Parody on Hiawatha (Philadelphia: Press of William Syckelmoore, ca. 1881), p. 7, hereinafter cited as Haupt, Herman's Wooing.

⁴⁰Ibid. ⁴¹Haupt, "Memoirs," p. 15.

⁴²Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 1.

⁴³Haupt, "Memoirs," p. 12; Abraham Houpt, Herman's uncle in Centerville, Illinois, to John Houpt, January 2,

Margaretta was repeatedly urged to bind Herman out to a trade to relieve the burden on the family larder and augment its income, but she refused. She managed to obtain credit and opened a dry goods and trimming shop in a small house with another lady who lived with the family, and they eked out a living making plaid cloaks with hoods for the ladies of Philadelphia.⁴⁴ Herman was sent back to school, but with no money he was required to earn his tuition by cleaning the school room, building the fire, hauling water and various other janitorial tasks. In addition he taught the smaller children in the school and locked up after classes.⁴⁵

Haupt had been in school for one year when his mother received a letter from John B. Sterigere, United States Congressman and a "connection" of the family, inquiring whether she had a son old enough to be appointed to West Point.⁴⁶ Margaretta, elated at the prospect, indicated that Herman was thirteen and ready to go. Sterigere obtained a warrant signed by President Andrew Jackson

1829, Haupt Papers, Box 1. Abraham castigated his brother John for not continuing the loan of the money to Margaretta, and for being a cause of Jacob's death.

⁴⁴Haupt, "Memoirs," pp. 12-13.

⁴⁵Ibid.; "Obituary of Herman Haupt," in The Railroad Gazette, December 29, 1905, p. 589.

⁴⁶Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 2.

for the following year and requested that Haupt prepare himself for the entrance examinations by taking French lessons. Margaretta complied and hired an ex-general of Napoleon's army to tutor Haupt three mornings a week to fulfill the requirement. In the meantime Haupt continued to work his way through the private school.⁴⁷

Sterigere also requested that he change his name to the original spelling. Houpt had no meaning in German, while Haupt meant chief, principal, or head. Herman was happy to comply with the request and changed the spelling but other members of the family continued to use Houpt.⁴⁸

Young Haupt was not eager to enroll in West Point, for he had heard of the rigid discipline and examinations and, since he remembered the discipline of his father, he was not eager to repeat the experience. His mother prevailed, however, and in 1831 Haupt was sent off to the Point in a suit of clothes made by his mother which was ". . . not in the most fashionable style."⁴⁹ She included the price of the passage and a Mexican silver dollar which Haupt carried until it was stolen from him in Philadelphia in 1879.⁵⁰

⁴⁷Haupt, "Memoirs," p. 16. ⁴⁸Ibid.

⁴⁹Ibid., p. 21; Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 3.

⁵⁰Haupt, "Memoirs," p. 21. Margaretta also gave Herman his father's gold watch, which he carried for many years. He later returned it to her for safekeeping, but it was also stolen.

Haupt arrived at West Point at the age of fourteen, reportedly the youngest cadet ever to attend the academy.⁵¹ It is certain that he was the smallest cadet in the corps, for he had trouble marching because his stride was too short and he was unable to hold the musket for any period of time in the horizontal position because of its weight and his short arms.⁵²

At fourteen Haupt was still shorter than his mother, who probably stood not much over five feet tall,⁵³ and at the Point he was nicknamed Le Petit, the little fellow.⁵⁴ He escaped hazing, which was not extensively practiced at the time of his enrollment, and this may account for his heated opposition to the practice during his term on the board of visitors prior to the Civil War. As late as 1901 he was still writing irate letters to the Superintendent of the Academy condemning its reputed practice.⁵⁵ He did take part in the usual pranks played on new members, particularly those with the smallest degree of innocence. He had no trouble with the entrance examination and was immediately

⁵¹"Obituary of General Herman Haupt," in The Railroad Gazette, December 22, 1905, p. 589.

⁵²Haupt, "Memoirs," pp. 21-22. ⁵³Ibid., p. 32.

⁵⁴Ibid., p. 22.

⁵⁵Herman Haupt, Washington, D.C., to Cadet Lewis M. Haupt, West Point, September 14, 1863, in Lewis M. Haupt Papers (Library of Congress, Washington, D.C.); General Albert L. Mills, Commandant of West Point, to Haupt, May 29, 1901, Adamson Collection.

assigned to the company composed of other runts, in which he remained during his four years at the Point.⁵⁶

Haupt found the discipline as severe as he had imagined. All the cadets were forced to stand sentry duty with no shelter eight out of twenty-four hours,⁵⁷ but the physical regimen had advantages as well, for throughout his entire life Haupt possessed a truly amazing physical stamina. He was able to go consecutive days and nights without sleeping or eating during the Civil War, located railroads and pipelines during the dead of a Pennsylvania winter exposed to the elements for weeks at a time, and was seldom ill. There was only one instance until late in life, when Haupt ever complained of being sick enough to halt his work. He later attributed this stamina to the physical training he had received at West Point.⁵⁸

Haupt was not a model cadet. Once the initial fear of being found scholastically deficient passed, he replaced it with overconfidence. He developed a love for novel reading and card playing, often reading late at night under a table covered with a blanket to conceal the light. He collected demerits with abandon and did not care how close he came to the expulsion limit of 200 in one year. At the close of his second year he had reached the 200-demerit

⁵⁶Haupt, "Memoirs," p. 21. ⁵⁷Ibid., p. 24.

⁵⁸Ibid.

limit by the opening of the June examinations, and to prevent expulsion he had to perform well on the tests as well as avoiding any additional demerits.⁵⁹

The yearly examinations were conducted by the faculty of the Academy and the members of the board of visitors, who were prominent men from all walks of life, appointed by the Secretary of War. These men convened for the two-week session and sat during all examinations and cross-examined the cadets. Each cadet was obliged to go through approximately five hours of grilling before this awesome group on material covering all of his courses.⁶⁰ The board then prepared an annual report on the state of the Academy which was usually favorable and helped alleviate outside opposition to the government military school.⁶¹

Haupt took his second year exams before this board and he performed creditably on the first portion of the exam covering mathematics, but the following day was recalled for additional grilling. According to his account, this lasted about half an hour and he performed flawlessly. The recall was a stroke of good luck for it compensated for

⁵⁹Ibid., pp. 25, 27; in his first six months at the Point Haupt collected 136 demerits. 1832 Merit Rolls, Fourth Class, Record Group 94 (National Archives, Washington, D.C.), hereinafter cited as West Point Class Rolls.

⁶⁰Stephen E. Ambrose, Duty, Honor, Country: A History of West Point (Baltimore: The Johns Hopkins Press, 1966), p. 80.

⁶¹Ibid., p. 119.

his poor performance on the French portion of the exam. However, Haupt was uncertain of the results of the examinations and because of his 200 demerits and his unfriendly relations with Superintendent Sylvanus Thayer, he was certain he would be expelled. The results of the examination were sent to Washington for processing, and he had a two-week waiting period before learning his fate.⁶²

Haupt looked back on this two-week period of waiting as a turning point in his life.⁶³ He matured. He not only gave up cards, novels, and the accumulation of demerits, but he became very religious.⁶⁴ Not the fleeting religious transformation of a person in distress, but a lasting conversion that grew in intensity and comforted him in times of success as well as failure throughout his life.⁶⁵

Haupt approached religion in the same way he did an engineering problem.⁶⁶ He had no religious training at

⁶²Haupt, "Memoirs," pp. 27-30.

⁶³Herman Haupt to Lewis M. Haupt, March 26, 1905, Haupt Papers, Box 9.

⁶⁴Haupt, "Memoirs," p. 30.

⁶⁵Haupt's correspondence throughout the remaining seventy-two years of his life is liberally sprinkled with references to divine intervention and will. He became an avid collector of good sermons and often went out of his way to attend a church with a noted minister. Haupt disliked emotional and evangelical religion along with Catholicism. With his religious transformation Haupt developed a lifelong aversion to profanity and liquor, points on which he became very inflexible.

home, had never attended Sunday school, and had rarely gone to church, so he had to start from the beginning. He looked about him and observed that he existed, the world existed, and deduced there had to be a creator. The universe was governed by law, determining the movement of the planets and the laws of nature, thus, there had to be a law giver. He wondered about the existence of moral laws and after investigating the Bible for the first time, concluded they did exist on the basis of internal evidence. No human mind could have conceived such a code of ethics, he wrote, ". . . and if conceived by a transcendent genius, there could have been no motive to propagate and publish such a system as a fraud by one who remained unknown and could have derived no benefit therefrom." That which man needs to know in the Bible is stated with clarity, that which is obscure man does not need to know on earth and will find out later.⁶⁷ When someone was prepared to offer something ". . . better or safer than the Bible, . . . and the proof must be as clear as that of a demonstration of Euclid, . . ." then he was prepared to listen. Until then there was no controversy. "Such were the conclusions of cool deliberate reason."⁶⁸

⁶⁶Haupt, "Memoirs," p. 33. He later wrote, "my religious impressions and convictions were the result of meditation and reasoning, with no external or personal or other influences."

⁶⁷Ibid., pp. 30-34.

⁶⁸Ibid., p. 34.

At the end of the two-week waiting period Haupt found that his recall on the mathematics portion of the examination had saved him from being found deficient. His class ranking, however, had slipped lower than even his first year, and he now stood in the bottom fifteen percent of the class.⁶⁹ A change in the superintendents at the academy brought in Colonel Rene E. DeRussy, who allowed Haupt his first furlough in two years despite his mass of demerits and low class standing. Haupt went home to find that he now stood a head taller than his mother.⁷⁰

Haupt changed drastically in his final two years at the Point. His class standing rose remarkably, putting him in the top half of the class by the end of the third year.⁷¹ For the first time he obeyed the regulations to the letter, to the extent that he lost many old friends because he

⁶⁹Haupt's class ranking as a fourth class cadet at the end of his first year was 43rd out of 65, or in the bottom one-third of the class. His ranking at the end of his second year fell to 53rd out of 61. He ranked 50th in mathematics, 48th in French and 26th in drawing out of 63 cadets who took the courses. Throughout his career at West Point he received his best rankings in drawing, engineering, and mineralogy. 1832 Merit Rolls, Fourth Class and 1833 Merit Rolls, Third Class, West Point Class Rolls.

⁷⁰Haupt, "Memoirs," pp. 31-32.

⁷¹Haupt in his "Memoirs" erroneously attributed his rise in ranking to the examinations at the end of his second year. The fact that he did well in the final exam merely prevented him from being expelled. After he settled down to serious work during his third year, his rank rose to 28th out of 57. He stood 48th in natural philosophy, 38th in chemistry and 20th in drawing. 1834 Merit Rolls, Second Class, West Point Class Rolls.

refused to participate in any illegal activities. He helped form a Bible class under the professor of ethics, gave up novels, and his demerits fell to almost zero.⁷²

Graduation arrived in June 1835. The entering class of 120 had shrunk to 40 and with an additional 16 who had been found deficient in earlier classes and allowed to return, the total number in the graduating class was 56. Haupt, at age 18, graduated number 29.⁷³ He had never been able to fully overcome his first two years spent at the bottom of his class.⁷⁴ His low class standing kept him out of the elite Army Engineering Corps, and instead he received a commission on July 1, 1835, as a Brevet Second Lieutenant in the Third Regiment of Infantry.⁷⁵

⁷²Haupt, "Memoirs," pp. 35-36. For the months of January and February 1835, Haupt stood 10th in engineering, 36th in rhetoric and moral philosophy, 10th in mineralogy, 14th in infantry tactics, and received 9 demerits, in a class of 56, putting him in the top one-third of the class. Class Conduct Report . . . to Mrs. Jacob Houpt, March 14, 1835, Adamson Collection.

⁷³1835 Merit Rolls, First Class, West Point Class Rolls; Haupt is ranked number 31 by Charles Branham (ed.), Register of Graduates and Former Cadets of the United States Military Academy (Chicago: R. R. Donnelley & Sons, 1965), p. 221. Other notable graduates of this class were Montgomery Blair, Postmaster General under Lincoln in 1861, General George Meade, commander of the Army of the Potomac at Gettysburg, and General Marsena Rudolph Patrick, Provost Marshall General of that army.

⁷⁴In his final year Haupt stood 18th in engineering, 25th in rhetoric and moral philosophy and 17th in mineralogy, far better than his rankings during the first two years. 1835 Merit Rolls, First Class, West Point Class Rolls.

⁷⁵Only the top two graduates of the class were recommended for the engineering corps. The next 17 were

Haupt returned home on furlough in the summer of 1835 with full intentions of remaining in the Army. While in Philadelphia he met two of his classmates, Henry Nagle and William Brown, who had taken jobs as assistant engineers for Henry R. Campbell, chief engineer for several railroads around the city and a locomotive designer. Haupt's classmates arranged an interview for him with Campbell, who gave Haupt a job as a draftsman at the salary of \$2.00 per day.⁷⁶ Haupt tendered his resignation to the Army effective September 30, closing out what must be one of the shortest regular army careers on record.⁷⁷

Haupt was well fitted for his new career for West Point in the 1830's was the preeminent engineering school of the country.⁷⁸ In fact it was considered to be a better

recommended for the artillery, and the bulk of the class for the infantry. The lowest four in the class were put in the dragoons. 1835 Merit Rolls, First Class, West Point Class Rolls; Letter of C. A. Harris, Acting Secretary of War, to Bvt. 2nd Lieutenant Herman Haupt, July 1, 1835, Adamson Collection.

⁷⁶Haupt, "Memoirs," p. 38.

⁷⁷Order of the Adjutant General's Office, No. 72, October 7, 1835, Adamson Collection; all cadets had to serve five years from the date of their appointment to West Point. Haupt's appointment was signed March 22, 1830, by the Secretary of War on the basis of an erroneous birth certificate provided by Haupt's mother stating he was born November 25, 1815. Thus, when Haupt graduated he had already served five years from the date of his appointment. U.S. Military Academy, Cadet Application Papers, Roll 78, 1831 (National Archives, Washington, D.C.).

⁷⁸Ambrose, Duty, Honor, Country, p. 122; Charles E. Fisher, "Whistler's Railroad: The Western Railroad of

preparatory school for engineers than soldiers as more of the curriculum was pertinent for the former than the latter.⁷⁹ With the exception of Rensselaer Polytechnic Institute, West Point was the only school in the country that trained civil engineers. In terms of absolute numbers of engineers practicing, West Point was rivaled only by those men trained by practical experience on the Erie Canal project.⁸⁰ With the increased mechanization and technical complexity of engineering projects, there developed a dire need for trained men, particularly for the internal improvement projects of the 1830's.⁸¹ West Point sought to fulfill this need by offering courses pertinent to civil engineering in roads, tunneling, inland navigation, railroad construction and inland harbors⁸² in addition to the regular engineering curriculum which included chemistry, topographical

Massachusetts," The Railroad and Locomotive Historical Society, Bulletin No. 69 (May 1947), p. 24; Daniel Hovey Calhoun, The American Civil Engineer: Origins and Conflict (Cambridge, Mass.: Harvard University Press, 1960), pp. 50, 53.

⁷⁹T. Harry Williams, P. G. T. Beauregard: Napoleon in Gray (Baton Rouge: Louisiana State University Press, 1955), pp. 6-7.

⁸⁰Ambrose, Duty, Honor, Country, p. 122.

⁸¹Charles Riborg Mann, A Study of Engineering Education: Prepared for the Joint Committee on Engineering Education of the National Engineering Societies, Bulletin 11, Carnegie Foundation for the Advancement of Teaching (New York: The Merrymount Press, 1918), p. 5.

⁸²Ambrose, Duty, Honor, Country, p. 123.

drawing, architecture, and mineralogy.⁸³ Despite the excellent preparation offered by the Point, most of its graduates tended to remain in the service and work in the Corps of Army Engineers. By 1836 only 39 of its graduates were working as civil engineers outside the Army.⁸⁴

Haupt entered the profession with an advantage of a formal education which most practicing engineers lacked. By 1837 the average engineer was a person who had worked his way up through the engineer corps of an internal improvements project such as the Erie Canal.⁸⁵ The salaries offered engineers in 1836 were high enough to be attractive. A chief engineer could draw as much as \$6,000 per year, with an ordinary engineer receiving between \$2,000-\$3,000. An engineer of the "second rank" received about \$1,200 to \$1,600, as contrasted with a clerk who received about \$400 per year and a mason about \$1.25 to \$1.75 per day.⁸⁶ In "status" an engineer of the 1820's to the 1840's was definitely aligned with the "gentleman" class rather than the "mechanic."⁸⁷ During the 1840's civil engineers were

⁸³Haupt, "Memoirs," p. 36; Class Conduct Report . . . to Mrs. Jacob Houpt, March 1, 1835, Adamson Collection.

⁸⁴Ambrose, Duty, Honor, Country, p. 122.

⁸⁵Calhoun, The American Civil Engineer, p. 53.

⁸⁶Ibid., pp. 167-168.

⁸⁷Ibid., p. 193.

becoming a definite occupational group culminating in 1852 with the formation of the American Society of Civil Engineers which survives until today.⁸⁸

⁸⁸Ibid., p. 182; Charles Warren Hunt, Historical Sketch of the American Society of Civil Engineers (New York: Evening Post Job Printing Office, 1897), introduction.

CHAPTER II

LAYING THE GROUNDWORK

Haupt, equipped with the necessary technical skills, graduated in time to participate in the first surge of railroad building in the United States.¹ Starting in 1830 with practically no railroads, the United States had almost 3,000 miles constructed by 1840, a little over 9,000 miles by 1850, and over 30,000 miles by 1860.² Thus in each decade between 1830 and 1860 the total mileage tripled. Pennsylvania took an early lead in railroad construction as part of her continuing effort to attract some of the lucrative western trade away from the Erie Canal and the port of New York.³ Between 1826 and 1834 the state strung a combination of railroads and canals known as the Main Line across the state from Philadelphia to Pittsburgh which required

¹John F. Stover, American Railroads (Chicago: The University of Chicago Press, 1961), pp. 18-19; Taylor, The Transportation Revolution, p. 79.

²Henry V. Poor, Manual of the Railroads of the United States: 1869-1870 (New York: H. V. and H. W. Poor, 1869), xxvi.

³Ibid.; Stover, American Railroads, p. 12; Wright, Economic History of the United States, p. 349; George Rogers Taylor and Irene B. Neu, The American Railroad Network, 1861-1890 (Cambridge, Mass.: Harvard University Press, 1956), p. 4.

frequent transshipments of cargoes and trips across the Alleghenies by means of inclined planes.⁴ The delay and expense of shipping goods over the state works caused Philadelphia merchants to prefer to ship their goods to New York and then west over the Erie Canal.⁵ The Main Line consequently barely met operating expenses, and the state was forced to sell the improvements to the Pennsylvania Railroad in 1857 for about twenty percent of its investment.⁶

While Haupt was too late to gain employment on the construction of the Main Line, he easily found enough work on the local railroads being constructed in the southeastern part of Pennsylvania. Haupt's employment during the years 1835 through 1847 corresponded exactly to the fluctuation in railroad construction in the state during that period. From 1836 to 1840, the first phase of railroad building reached its height and Pennsylvania averaged eighty-nine

⁴Alvard Longley Bishop, "The State Works of Pennsylvania," Transactions of the Connecticut Academy of Arts and Sciences, XIII (November, 1907), 196; Caroline E. MacGill, History of Transportation in the United States Before 1860 (Washington, D.C.: Carnegie Institution of Washington, 1917), pp. 387-388; H. W. Schotter, The Growth and Development of the Pennsylvania Railroad Company (Philadelphia: Allen, Lane & Scott, 1926), pp. 17-18.

⁵MacGill, History of Transportation in the United States, p. 389.

⁶Ibid.; George H. Burgess and Miles C. Kennedy, Centennial History of the Pennsylvania Railroad Company (Philadelphia: Pennsylvania Railroad Company, 1949), p. 95.

miles of new railroad per year for the five-year period. The depression of 1837 and the ensuing general lull in economic activity virtually ended railroad construction between 1841 and 1845 when the state averaged a mere nine miles per year of new construction.⁷ During this period Haupt was unable to find a position with a railroad and turned to farming, running a boarding school, and college teaching.⁸ Capital and interest in railroads again appeared in 1846, and for another five-year period the state averaged eighty-eight miles of new construction per year. This boom period continued until the Civil War, and Haupt enjoyed uninterrupted employment for the next seventeen years.⁹

Haupt started to work in the summer of 1835 for Henry R. Campbell ". . . making drawings of locomotives . . . showing every bolt and rivet, . . ." ¹⁰ It is possible that Haupt drew up plans for the first American locomotive with a 4-4-0 wheel arrangement. This locomotive, designed by Campbell, was an engine type that would dominate the rails of the United States for over forty years and be

⁷Poor, Manual of Railroads, 1869-1870, xxvi.

⁸Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, pp. 3-6.

⁹Ibid.; Poor, Manual of Railroads, 1869-1870, xxvi-xxvii; Stover, American Railroads, pp. 38-39.

¹⁰Haupt, "Memoirs," p. 38.

imitated extensively in Europe.¹¹ Haupt made such a good impression on Campbell that he was steadily given more responsibility and within a year was earning twice his original salary. Haupt had little interest in girls, did not drink, and was generally bashful, with the result that he spent a larger amount of his time working than did his contemporaries.¹² Campbell appreciated Haupt's drafting ability to the extent that he had two of Haupt's drawings framed and hung in his parlor.¹³

Campbell received the job of locating a railroad from Norristown to Allentown in the fall of 1835. Haupt was anxious to get into the field to put his knowledge to the practical test and Campbell happily complied, appointing Haupt as transitman in the corps of engineers organized for the survey. Haupt had never used surveying instruments such as a transit, but with the help of another member of the party he soon mastered their use.¹⁴

¹¹Reed Kinert, Early American Steam Locomotives, 1st Seven Decades, 1830-1900 (New York: Bonanza Books, 1962), pp. 71-72; Alfred W. Bruce, The Steam Locomotive in America, Its Development in the Twentieth Century (New York: Bonanza Books, 1952), pp. 25, 28, states: "it was largely with the 4-4-0 that U.S. military operations on the railroads during the Civil War were carried out, . . ."

¹²Haupt, "Memoirs," p. 39. Haupt thought that "the sure road to success for a young man starting in life is to make himself so useful to his employers that they cannot do without him, and never get an idea into his head that he is doing too much for the pay that he receives."

¹³Ibid.

¹⁴Ibid., pp. 39-40; Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 3.

The survey commenced in the early part of the winter of 1835-36 at Norristown and worked west along the Schuylkill River for a short distance and then moved north into the Perkiomen Creek valley. The work was arduous, but Haupt's physical conditioning at West Point was good training for working outside during a Pennsylvania winter. The party boarded at country hotels along the projected route, including one at Sunnyside on the turnpike north of Norristown, where it was usual for the party, with the exception of Haupt, to spend the evenings in the barroom. One evening the boys demanded that the landlord of the hotel in Sunnyside produce some walnuts for the group. The landlord refused, saying that they should be in bed, and a fight was only narrowly averted. The next day the corps wisely decided it was time to move to another hotel about five miles up the pike.¹⁵ Soon after the group left the hotel, a local teamster named Willhauer returned and heard the landlord recount the night's events. Willhauer told him that if the group returned, he would give them a good flogging.

The group returned sooner than anyone thought. The terrain of the country became so difficult and the stream so circuitous that Haupt thought it advisable to return to Philadelphia and consult with Campbell about locating a cheaper and easier route. Five other men in the corps

¹⁵Haupt, "Memoirs," pp. 41-47.

decided to accompany him on the trip. A farm wagon was hired along with a driver and the men set out at 10:00 P.M. for a sixteen-mile ride south to Norristown, where they planned to take the morning train to Philadelphia. It was a cold sleeting night, and progress was less than two miles an hour. The driver stopped to water the horses at about midnight in Sunneytown, and all except Haupt decided to go into the hotel to get a drink to ward off the chill. Haupt remained in the wagon until he heard an argument inside. He went into the barroom and found the men in a dispute with the hotel owner, who had closed for the night. Haupt told the men to stop the argument and return to the wagon with him; he then left. Several minutes later he heard the sound of breaking glass and reentered the hotel where he found a brawl taking place. He managed to disengage the men, return them to the wagon, and the whole party departed once again for Norristown.

The details of the fight are sketchy, but it is obvious that Haupt entered near the end of the actual fighting. The teamster Willhouer had entered when the men were following Haupt out the first time, and proceeded to hit one of the men over the head with a chair. The fight was then on in earnest. When Haupt returned during the fight, he saw only the hotel keeper and two of his own group. While the group was on the way to Norristown, one of the men mentioned that he had tried to defend himself with his knife

but was unsuccessful. There was no blood on the weapon.

The wagon stopped again after daylight about four miles north of Norristown at a small hotel for breakfast. All except Haupt were arrested there by a sheriff's posse for assault upon the hotel keeper and the murder of Willhouer. The sheriff, finding Haupt in the party, also attempted to arrest him, but Haupt managed to remain free because his name was not on the warrant.

When the rest of the party were put in jail, Haupt walked the four miles to Norristown to ask his old friend John B. Sterigere for help. Sterigere engaged a distinguished corps of attorneys for the defense: George M. Dallas, later to be Vice-President under James K. Polk; Isaac Hazelhurst of Philadelphia; John R. Montgomery, leader of the Lancaster bar; John Freedley, and Sterigere himself. The prosecutor was Benjamin Franklin Hancock, father of General Winfield Scott Hancock, the Democratic presidential candidate in 1880.

About two weeks before the trial the sheriff arrested Haupt on a warrant from the prosecutor, but allowed him two or three days to arrange his business and to go to Philadelphia to see his mother. When he returned, Haupt was put in jail with the others where he had a comfortable unlocked room, was waited on by the wife and daughter of the sheriff, was allowed visitors, and generally lived comfortably.

The trial lasted about two weeks. The jury was selected with great care and was composed of some of the most prominent and wealthy men of the county. This was advantageous to the defense since the defendants also came from rather prominent families of the area. There was a great deal of rhetoric expended during the two weeks, and when the judge charged the jury he reviewed the evidence and stated there was no evidence against Haupt. He also stated that the physician who had examined the body had testified that the knife wound could not have been made by the knife in possession of one of the party. The jury returned a not guilty verdict and the prisoners became the "lions of the town." The trial was important to Haupt for he had been presumed to be the least guilty of the party because of his reputation for not drinking or carousing. This was in opposition to the reputations of his companions and therefore their implication in the fight was quite believable. Haupt never forgot the benefits of a good reputation.¹⁶

The murder trial ended the survey of the Norristown and Allentown Railroad. In the spring of 1836, shortly after the trial, Haupt was again in the field with two of the "lions" surveying a rail line from Downingtown, northeast toward Norristown, to connect with the Reading

¹⁶Haupt was always very sensitive to the status of his reputation, both private and professional. His correspondence throughout his life contains innumerable references to the subject, leading in some instances to his construing a professional difference as a personal attack.

Railroad. The survey of the thirty-two mile line was completed quickly, and Haupt was assigned a ten-mile division at Downingtown for the final location. He was promised a rod man who did not appear, so Haupt hired an Irish laborer and staked the whole division, calculated the quantities of excavation and amount of embankment, drew profiles of the line, and sent the whole report to Campbell asking for more work. For the last three weeks in May Haupt was kept inside his hotel by a drenching rain.¹⁷

In early June, a nondescript man arrived at the hotel and asked for Haupt. He was John P. Bailey, chief engineer of the Eastern Division of the Pennsylvania State Works, and he had a job for Haupt as his principal assistant at \$120 per month. Haupt was interested, and although Bailey had cleared the job with Campbell, Haupt took the next train for Philadelphia to be certain. He had been recommended for the job by a complex chain of personal friendships. The Antimasonic and antislavery administration of Joseph Ritner had taken over the state house in Harrisburg in 1835, and one of the powers in the administration was Thaddeus Stevens, a lawyer and resident of Gettysburg. Stevens owned, or had an interest in, several iron furnaces with Colonel James D. Paxton, and both men were members of the state canal commission. Stevens used his influence to get a bill introduced authorizing the state to

¹⁷Haupt, "Memoirs," p. 47.

build a railroad from Gettysburg southwest to Hagerstown, Maryland, to connect with the Baltimore and Ohio Railroad. The bill passed and when John Bailey, the engineer for that section of the State Works needed an assistant, he asked Campbell for a recommendation. Campbell suggested Haupt and although he only technically loaned him to the state until the survey was finished, Haupt never again worked for Campbell.¹⁸ Campbell soon left Pennsylvania to work in New England.¹⁹

Haupt reported for work in Gettysburg in June of 1836, where he was to reside for the next eleven years.²⁰ He was welcomed by Thaddeus Stevens, Colonel Paxton, and John Bailey, which put him in select company in the little town of 1,500 people.²¹ Haupt was only nineteen years old,

¹⁸Ibid., pp. 47-49; Stevens, who was known as the "high priest of Antimasonry in Pennsylvania," incurred the wrath of the Democrats who dubbed his Gettysburg railroad project the "Tapeworm" because of its crookedness, both literally and figuratively. Wayland F. Dunaway, A History of Pennsylvania (New York: Prentice-Hall, Inc., 1948), pp. 377-378.

¹⁹Edward Chase Kirkland, Men, Cities and Transportation: A Study in New England History, 1820-1900 (Cambridge, Mass.: Harvard University Press, 1948), I, pp. 174-175, 312.

²⁰Chapman, "Haupt," I-3, p. 2.

²¹Haupt, "Memoirs," p. 51; Gettysburg and its political circles evidently did not impress everyone who lived there and worked for the projected railroad. W. Hasell Wilson, chief engineer of the road after August 1838, described Gettysburg as ". . . a small country town . . . [where] political excitement was very bitter." He did not enjoy his stay and ". . . left it without regret." W. Hasell Wilson, Reminiscences of a Railroad Engineer (Philadelphia: Railway World Publishing Company, 1896), pp. 27, 31-32.

young for the position he held. On his first field trip with Bailey they stopped at a hotel for the night and as the baggage wagon was being unloaded, Haupt was leaning against a post giving orders, when the landlady, mistaking him for Bailey's valet, yelled to him: "Boy....pick up Mr. Bailey's valise and carry it upstairs, . . ." Haupt was always amused by this incident and afterwards became very good friends with her, staying often at her hotel.²²

Haupt's first task was to make a reconnaissance of the country over which the line was to run. This entailed learning to ride a horse, a talent Haupt had not acquired when it was offered to him at West Point, and which caused him some discomfort.²³ Once he mastered riding, he recruited a corps of engineers to lay out the route and instructed and trained them in their duties. In this capacity he acted as a foreman under Bailey's general direction, but Haupt had little regard for Bailey's knowledge of engineering. When Bailey left the job entirely to him after the general location of the route had been determined, Haupt was not the least displeased.²⁴ This gave him his first real command.

The job of an engineer in the field was complex.

²²Haupt, "Memoirs," pp. 54-55. ²³Ibid., p. 51.

²⁴Ibid., pp. 52-54, 58. While the survey party was in the field, it killed about a rattlesnake per day. One of the axmen faithfully cut out each snake's heart and ate it, believing it would protect him from being bitten.

He had to give assurances that the project was practicable, that it could be constructed both soundly and economically, give the promoters the necessary information on which to base their cost estimates, and give a degree of security to those contemplating investment.²⁵ To provide this information, the engineer would determine the approximate location, quantities of earth to be moved, and fill and materials needed. These items were incorporated into a series of maps and profiles drawn by the engineer which allowed the promoters to estimate the cost of construction and the operation of the completed road.²⁶ Sometimes this last item was also included in the engineer's report.²⁷ After the plans were accepted and bids received for construction, it was the engineer's job to inspect the contractor's work

²⁵ Calhoun, The American Civil Engineer, p. 56.

²⁶ Ibid., pp. 59-60.

²⁷ Haupt usually included in his surveys not only the probable cost of construction and the net receipts of the projected railroad, but also the projected population growth of the area served, the commodities expected to be hauled, and a summary of the rail connections and probable competition. His reports were generally printed and distributed in an attempt to raise capital. In this sense the reports were promotional as well as professional; an indication that the formal role of the professional civil engineer was not well defined. See Haupt's Report of the Final Location of the Southern Railroad (Philadelphia: T. K. and P. G. Collins, 1853); Report of General Haupt, Chief Engineer . . . To the Shenandoah Valley Railroad Company (Philadelphia: Helfenstein & Lewis, 1870); and his later The Dakota and Great Southern Railway of Dakota (Chicago: Rand, McNally & Co., 1884).

and insure that it met his standards.²⁸ Haupt's job on the Gettysburg Railroad was to get the preliminary report filed as a basis for a construction estimate. There were many factors that went into the good location of a proposed line; if it was laid out with few curves and low gradients, the finished railroad could run longer trains at higher speeds for less cost. Avoidance of creek and river crossings and particularly tunnels lowered the initial construction costs and kept maintenance of the finished line to a minimum. Finally, speed was essential since all expenses prior to the start of operation of the line had to be met from capital investment, and the promoters wished to see the line pay its own way as quickly as possible. Haupt quickly earned a reputation among engineers for expert location;²⁹ when only thirty years old, he was called upon to locate a portion of the Pennsylvania Railroad. Haupt maintained his reputation and at the age of sixty-seven was still locating planned railroads.³⁰

Haupt led a survey party through the area near

²⁸Calhoun, The American Civil Engineer, pp. 60-61. Often the engineer had the right to change the specifications of the work while it was in progress. This prerogative was to result in forcing Haupt to suspend work on the Hoosac Tunnel in 1861.

²⁹Chapman, "Haupt," I-3, p. 1a.

³⁰The Dakota and Great Southern noted above.

Gettysburg in the summer of 1836 and had the preliminary report and estimates finished and the road let for contract by October of the same year. Haupt remained in the employ of the State until 1839 when a change of administration ended work on the road,³¹ which is now part of the Western Maryland system.³²

Haupt's attention was not entirely devoted to surveying and railroads during the winter and spring of 1837. He had discovered the ladies, or at least two of them. The first was Margaretta, the daughter of Colonel Paxton. Haupt lived at a boarding house kept by a sister-in-law of Colonel Paxton's and was a frequent guest at the Colonel's but his attendance in the Paxton household set tongues wagging in small town fashion and evidently frightened Margaretta away.³³ Haupt thought she was indifferent and soon lost interest, but his mother was dismayed, for she was hoping for a wealthy daughter-in-law.³⁴

The second girl was the daughter of the local Lutheran minister. While Haupt lived at the boarding house, he attended the Presbyterian church with the Paxtons and

³¹Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 3.

³²Chapman, "Haupt," I-3, p. 2.

³³Haupt, "Memoirs," p. 58.

³⁴Haupt, Herman's Wooing, p. 16; besides, as Haupt later stated, "Margaretta was not particularly beautiful. . . ." Haupt, "Memoirs," p. 58.

taught a Sunday school class.³⁵ Haupt was approached in the spring of 1837 by Professor Reynolds, who taught Latin and Mental Philosophy at Pennsylvania College in Gettysburg, with a request that he formally join one of the local churches.³⁶ Haupt agreed that he should join a formal religious organization but did not join the Presbyterian church because, as he later wrote, ". . . as I was not prepared to swallow predestination, I concluded that the Lutheran creed and services were the most acceptable, . . ." and he went to see the Reverend Benjamin Keller, the local Lutheran pastor.³⁷ Haupt was baptized that spring and was confirmed on Good Friday along with Father Keller's eldest daughter, Anna Cecilia.³⁸

Haupt was still so shy that any initiative towards Anna Cecilia had to be taken by others. During the summer of 1837 Haupt was the unwary victim of a trap when he was ushered into a room and left alone with about twenty girls of the town where he was compelled to promise to join a picnic the next afternoon as the escort of Miss Keller.³⁹ Once the ice was broken, the friendship blossomed throughout

³⁵Ibid., p. 59.

³⁶Ibid.; flyer from Haupt to parents of his pupils at Oakridge Select Academy, 1845?, Haupt Papers, Box 1.

³⁷Haupt, "Memoirs," pp. 59-60. ³⁸Ibid., p. 60.

³⁹Ibid., pp. 58-59; Haupt, Herman's Wooing, pp. 11-12, quoted in Chapman, "Haupt," I-3, p. 3.

that summer. In early autumn Haupt escorted Anna Cecilia to a wedding of mutual friends in York, Pennsylvania, and proposed to her in the carriage on the return trip.⁴⁰

Father Keller had no objections when consulted, but asked that the young couple wait one year until Anna Cecilia reached seventeen.⁴¹ During the intervening year Haupt purchased a lot of several acres on Seminary Ridge, later to become famous in the Battle of Gettysburg, and built a substantial brick home called Oakridge which is still standing.⁴² In 1839 he purchased additional land running for about a half a mile in the direction of Little Roundtop, which was to be in the middle of the battlefield.⁴³ Haupt returned to Gettysburg in 1863 to take part in the battle which was held right in his own back yard.

⁴⁰Haupt, Herman's Wooing, p. 15.

⁴¹Ibid., pp. 15-16, 36. An example of Haupt's courtship in the Rev. Keller's front parlor is shown by this verse in Herman's Wooing, p. 25:

Come into the old front parlor
"Kiss me quick," no one is looking,
Give one more. Hark, Moll is coming,
Sit down quickly, look quite sober,
Hush! be serious; she'll suspect us.

Haupt often wrote bits of doggerel to commemorate birthdays, anniversaries, or deaths, several of which he published. They often contain much useful information. Mrs. Susan Haupt Adamson owns a portrait of Anna Cecilia at age sixteen which she attributes to Haupt. It is well done, but it is the only example of a painting attributed to Haupt to the author's knowledge.

⁴²Ibid., pp. 17-18.

⁴³Bill of sale, April 1, 1839, Haupt Papers, Box 1.

At the early hour of 6:00 A.M., on Thursday, August 30, 1838, Haupt married Anna Cecilia⁴⁴ and after a wedding trip through Pennsylvania visiting relatives they settled at Oakridge.⁴⁵ Haupt's mother moved in with the couple and remained with them until the end of her life.⁴⁶ Haupt's marriage was always a great source of comfort and satisfaction for him. For fifty-two years, through Haupt's long and varied career, Anna Cecilia patiently endured the great successes and great reversals.

Anna Cecilia was a small woman, standing not much over five feet one inch, and was very light complexioned with blonde hair.⁴⁷ She was ardently sought after by the seminary students in Gettysburg⁴⁸ and after she had had eleven children, General Marsena R. Patrick, Provost Marshal-General of the Union Army, a man with an eye for the ladies,

⁴⁴Souvenir of the Golden Wedding of Herman Haupt and Anna Cecilia Haupt, p. 34. It is uncertain why the wedding was held at 6:00 A.M., but Mrs. Adamson hypothesizes that since Haupt was shy, this early hour was the only way to avoid a large formal wedding. They were actually married before breakfast. Mrs. Susan Haupt Adamson to author, July 31, 1968.

⁴⁵Mrs. Susan Haupt Adamson to author, July 31, 1968; the wedding trip was on horseback.

⁴⁶Haupt, Herman's Wooing, p. 38.

⁴⁷Anna Cecilia's height is estimated by measuring the dress she wore at Emperor Napoleon III's audience in 1867, owned by Mrs. Adamson. Anna Cecilia's complexion and hair are mentioned in Herman's Wooing, p. 16.

⁴⁸Herman's Wooing, p. 16.

slyly commented in his diary in 1863 that Anna Cecilia was ". . . wonderfully young for the Mother of so many children."⁴⁹ She generally stayed outside Haupt's business affairs and because of his frequent absences, assumed total control of the running of the household. She ran an efficient home and maintained strict discipline within the brood. She was also laced with a wide streak of Teutonic stubbornness. Their life together was a source of happiness to both, evidently model happiness, for Haupt's brother, Lewis, twelve years later married Anna Cecilia's sister.⁵⁰

As if surveying railroads, courting his wife and building a house were not enough, Haupt served as an instructor of civil engineering and architecture at Pennsylvania College where he taught from 1837 to 1839 without compensation.⁵¹ As a reward for his gratuitous service he received an honorary Master's degree from the school in 1839.⁵² In that same year, he severed his ties with the college for six years while he worked for a short time on a local

⁴⁹Davis S. Sparks (ed.), Inside Lincoln's Army: The Diary of Marsena Rudolph Patrick, Provost Marshall General, Army of the Potomac (New York: Thomas Yoseloff, 1964), p. 257.

⁵⁰Mrs. Susan Haupt Adamson to author, May 24, 1968.

⁵¹Now Gettysburg College; Samuel Gring Hefelbower, The History of Gettysburg College, 1832-1932 (Gettysburg, Pa.: Gettysburg College, 1932), p. 144.

⁵²Clyde B. Stover and Charles W. Beachem, The Alumni Record of Gettysburg College, 1832-1932 (Gettysburg, Pa.: Gettysburg College, 1932), p. 731.

railroad project, ran a boarding school, and tried farming.

During the winter of 1840-41 Haupt contracted "ague" while doing some survey work along the Susquehanna River and was confined at home for several months. His physician recommended a change of climate and suggested the eastern shore of Maryland. When Haupt was able to travel early in 1841, he visited that locale and arranged to purchase a small farm along Corsica Creek, a tributary of the Chester River, near Centerville, Maryland. Since he had little previous experience, he found farming very difficult but commenced plowing in the spring with the assistance of a regular farm hand and two hired Negroes. Haupt did not adjust well to life on the farm, and the climate proved unhealthy for his wife, so when he received an offer of a teaching position at Pennsylvania College, he accepted and they returned to Oakridge.⁵³

When Haupt arrived in Gettysburg, he learned from his father-in-law that he would not receive the professorship after all. The faculty was seeking higher wages, and the trustees of the school were unwilling to grant both the higher wages and the new position. With the offered position no longer available, Haupt was left without employment.⁵⁴

⁵³Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 5.

⁵⁴Ibid., p. 6, quoted in Chapman, "Haupt," I-3, pp. 7-8.

It was suggested to Haupt by his friend, Caleb Jones, that he open a select school for boys and take Jones's son and a few others as pupils. As this seemed to be the only chance for Haupt to earn a living, he started the Oakridge Select Academy.⁵⁵ The students boarded at his home and in a frame dormitory on the grounds. The average enrollment was about twenty-six and the fee was \$150 per year, giving Haupt a salary before expenses of \$3,900. Haupt's brother, Lewis, taught French and helped in the English, mathematics and classical departments; William B. Harrison taught Latin, Greek and German, while Haupt taught mathematics, drawing, and natural and moral science.

The prospectus of the school for its last year, 1845, gives the nature of its aims and regulations. It stated that "the Principal can occupy . . . the position of a parent, can study their character and dispositions, [and] vary his modes of discipline accordingly. . . ." The rules enforced by Haupt for the school were the same rules observed in his personal household: he tolerated no profanity, novels without permission, card playing, liquor, tobacco, balls, parties or theater without permission, or disrespect towards teachers. Physical conditioning was not ignored nor were the twice weekly baths in a "perfectly

⁵⁵Ibid., p. 8.

safe" neighborhood stream.⁵⁶ The rules were stringent enough to allay the fears of even the most wary parent that his son might be exposed to undesirable moral influences.⁵⁷

The result of rigid discipline was that the Oakridge Select Academy became very popular among the parents of Gettysburg, to the extent that it drew many pupils away from Pennsylvania College. This situation resulted in an offer from the college in 1845 to merge the two schools which Haupt accepted along with an offer of a half-time professorship directing the mathematics department of the college. Haupt sent a flyer to the parents of his pupils to assure them that their children would continue to receive closely directed moral training, pointing out that a large proportion of the students at Pennsylvania College were studying for the ministry. By a special resolution of the board of trustees, Haupt was able to continue to board his former pupils at his home. In addition, the teachers of the Oakridge Select Academy were absorbed into the college faculty.⁵⁸

Haupt closed the Academy and started the Female Seminary of Gettysburg, with a faculty of three which

⁵⁶Ibid., pp. 8-9, quotes from Prospectus of 1845 for Oakridge Select Academy.

⁵⁷Flyer from Haupt to parents of his pupils, 1845?, Haupt Papers, Box 1.

⁵⁸Ibid.; Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 6.

included Haupt's youngest sister, Mary Elizabeth. The girls' school lasted from 1845 until Haupt left Gettysburg in 1847. The curriculum of the new school was typical of girls' schools of the period, with emphasis on religion, health and physical comfort, domestic and social duties, intellectual cultivation and "Accomplishment." The principal aim of the school was to convince the young lady that ". . . her education is lamentably deficient if she cannot . . . direct in every department of domestic duties."⁵⁹

Pennsylvania College in 1845 was housed in a single building a short distance from Haupt's home.⁶⁰ Almost as soon as the original building was built in 1838, the college began to plan for additional ones. Haupt drew the plans for the second building in the Greek Revival style,⁶¹ either following the architecture of the first building or possibly remembering the style of many buildings in his native city, Philadelphia, which ". . . saw alike the birth and death of Greek Revival architecture in America."⁶²

The construction of the building designed by Haupt

⁵⁹Chapman, "Haupt," p. 10; Hefelbower, History of Gettysburg College, p. 143, states that Haupt ran a girls' school immediately after his marriage. This is an error.

⁶⁰Ibid., p. 93. ⁶¹Ibid., p. 95.

⁶²Talbot Hamlin, Greek Revival Architecture in America (New York: Dover Publications, 1964), p. 63. Haupt's own home, Oakridge, was designed by him in the Greek Revival style.

was undertaken by both the townspeople and the students. The town put on a fair to raise money, the students scrounged for wood to burn the brick, farmers hauled the stone for the foundation, and the students dug the foundation and made the bricks. The cornerstone was laid during the summer of 1846 and finally, with financial help from the board of trustees, the building was dedicated in the fall of 1847. Named Linnaean Hall, the building with alterations survived well into the twentieth century. Haupt's original plan envisioned a third similar building which was never constructed.⁶³

During the years 1839 through 1847, while Haupt worked at various jobs to support his growing family, he was also investigating and solving problems connected with bridge design and construction that would create for him a reputation as a preeminent authority in this field.⁶⁴ Haupt had patented a relatively simple design of a truss for a bridge in 1839,⁶⁵ but his interest in the theoretical design problems of bridges was fully awakened in 1840 when

⁶³Hefelbower, History of Gettysburg College, pp. 95, 97.

⁶⁴Professor William M. Gillespie, Union College, to D. N. Carpenter, President Troy and Greenfield Railroad, February 21, 1860, cited by Chapman, "Haupt," I-3, pp. 12-13.

⁶⁵"List of American Patents Issued in December, 1839," Journal of the Franklin Institute, 3rd Series, I (1841), 107.

he held a position as principal assistant to Samuel W. Mifflin, on the York and Wrightsville Railroad.⁶⁶ Haupt was required to construct some bridges from timber that had already been delivered but was not satisfied that the strength of the bridges would be sufficient. He corresponded with ". . . nearly all the principal engineers in the United States" to learn how to calculate the strength of components in bridges,⁶⁷ but much to his surprise, with the exception of Benjamin H. Latrobe of the Baltimore and Ohio Railroad, who used a simple linear method of calculating strengths of materials, none of the professional engineers knew exactly what the strength of their bridges was prior to the construction and actual load testing.⁶⁸ Haupt therefore commenced his inquiry into bridge theory to assure himself that his bridges would not collapse when the first loaded car was run over them.⁶⁹ He erected models of different bridge structures, loaded the models with weights, and

⁶⁶Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 4; The York and Wrightsville was constructed and later purchased by the Pennsylvania Railroad in 1870. Burgess and Kennedy, History of the Pennsylvania Railroad, pp. 120-121; Samuel Mifflin, chief engineer of the road, was later instrumental in getting Haupt a job with the Pennsylvania Railroad.

⁶⁷Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 4.

⁶⁸Herman Haupt, Reminiscences of General Herman Haupt (Milwaukee: Wright & Joys Co., 1901), xiv.

⁶⁹Herman Haupt, General Theory of Bridge Construction (New York: D. Appleton and Company, 1851), p. 7.

proceeded to formulate equations to determine the observed strains at different points.⁷⁰ His experimentation with bridge design did not end when he left the York and Wrightsville Railroad in the winter of 1840. The results of his investigations were anonymously published in 1842 in an eighteen-page pamphlet entitled "Hints on Bridge Construction." He signed it "by an engineer" because he had formulated his stress formulas without the benefit of a technical library or collaboration with other eminent engineers,⁷¹ and since his departure was totally new for the engineering field, perhaps he was not confident that his formulations would be warmly received by his peers.⁷² The pamphlet did cause some controversy among professional engineers but it did not achieve a wide circulation.⁷³

Haupt was determined to pursue his examination of theoretical bridge design and while continuing his work with models and mathematics went into the field around Gettysburg and examined bridges actually in use to determine their strengths and weaknesses. He discovered what he believed were serious defects of design in many of the

⁷⁰Ibid., pp. 6-7.

⁷¹Ibid., p. 7; Haupt to Professor John Fries Frazer, April 30, 1850, in John Fries Frazer Papers (American Philosophical Society, Philadelphia, Pa.).

⁷²For instance, he was the first to popularize the fact that stresses are not distributed evenly over all the component parts of a bridge.

⁷³Haupt, Reminiscences, p. XV.

recently constructed railroad bridges and experimented with new designs that would not only cost and weigh less, but would withstand much greater loads.⁷⁴ Starting in 1844, while running the Oakridge Select Academy, he began a book-length manuscript on the subject. It took two years of intermittent work to finish the book, but when completed he was unable to locate a publisher willing to undertake its printing and distribution.⁷⁵ While searching for a publisher, Haupt wrote an article for the Journal of the Franklin Institute in 1849 describing a bridge on the Pennsylvania Central Railroad containing many of the advances he had worked out in his manuscript. At this time Haupt was responsible for bridge design on the Pennsylvania Central and no doubt designed the bridge described in the article.⁷⁶ Haupt also wrote to prominent scientists in the

⁷⁴Haupt, Theory of Bridge Construction, pp. 6-7.

⁷⁵Chapman, "Haupt," I-3, p. 11; Haupt, Reminiscences, p. XV.

⁷⁶Herman Haupt, "Description of an Iron Arched Bridge of 133 Feet Span, Across the Canal on Section 5 of the Pennsylvania Central Railroad," in Journal of the Franklin Institute, 3rd Series, XVIII (September, 1849), pp. 181-184. The bridge described by Haupt is a test of his counterbraced iron arch, a new concept. The arch is maintained at a constant stress equal to the heaviest expected load on the bridge, hence when a load is passed over there is no additional strain or flexing of the bridge. See Haupt, Theory of Bridge Construction, pp. 105-106. But his greatest achievement was the derivation of standardized formulas for the calculation of strains in beams of all sizes and configurations. His derivations were very clever using calculus to determine the volume of geometrical solids and equating through formulas the volume with the strength. Two good examples of his derivations are found in ibid., pp. 30-31n, 52-53n.

country, including John Fries Frazer, Professor of Chemistry at the Franklin Institute, describing his formulas used in stress calculations and wondering whether ". . . it is possible that my method after all may not be a new one."⁷⁷

Finally, after four years of searching for a publisher, Haupt induced D. Appleton & Company in New York to take the manuscript and it was published in 1851 under the title of General Theory of Bridge Construction. Appleton's promoted the work widely and it met with large success, particularly as a college text where it was used for many years at West Point, Yale, Union College, Troy Polytechnic Institute, and other principal engineering schools of the era.⁷⁸ The book met with lavish praise from Haupt's professional peers, including Robert Stephenson, the great English locomotive designer, who transmitted his approval of Haupt's work through Professor William Gillespie of Union College. Gillespie, who wrote a review of the book himself, described it as ". . . one of the most valuable contributions to applied science which has appeared in this country."⁷⁹ The book was solid enough to warrant a reprinting by Appleton's as late as 1883 without one word of revision.

⁷⁷Haupt to Frazer, April 30, 1850, Frazer Papers.

⁷⁸Herman Haupt, Statement of Herman Haupt Presented to the Joint Special Committee on Troy and Greenfield Railroad and Hoosac Tunnel (Boston: n.p., February, 1864), p. 33.

⁷⁹Gillespie to Carpenter, February 21, 1860, quoted in Chapman, "Haupt," I-3, p. 12.

As was to happen so often in Haupt's career, the attendant success of his technical achievement was diminished by conditions beyond his control. Throughout the preparation of his article and book, Haupt had the fear that his professional isolation in Gettysburg, without adequate technical facilities, would result in his duplication of an already existing work.⁸⁰ Unfortunately this was the case. A native of New York and a graduate of Union College, Squire Whipple, published a book in 1847 entitled A Work on Bridge Building.⁸¹ Whipple also developed formulas for the ". . . forces acting upon the various parts"⁸² of bridges, although by a somewhat different mode of derivation. Whipple's book was not distributed through the book sellers and was available only through the author, resulting in a small circulation and leaving a number of unsold volumes still in his hands twenty-two years later. Whipple reprinted his original work in 1869 with additions, stating that it was a reprint of the original publication which was a pioneer effort.⁸³ There is no doubt that Whipple,

⁸⁰Haupt, Theory of Bridge Construction, p. 9.

⁸¹Richard S. Kirby and others, Engineering in History (New York: McGraw-Hill Book Company, 1956), p. 229.

⁸²Squire Whipple, A Work on Bridge Building Consisting of Two Essays, The One Elementary and General, The Other Giving General Plans and Practical Details for Iron and Wooden Bridges (Utica, N.Y.: H. H. Curtis, Printer, 1847), pp. iii-iv.

⁸³Squire Whipple, Bridge Building: Being the Author's ORIGINAL WORK, Published in 1847. . . (Albany, N.Y.: n.p., 1869), pp. iii-iv.

independently and prior to Haupt, formulated and published his results on bridge design. It was his misfortune that his work was not more widely disseminated.⁸⁴

In the six years following the completion of Haupt's manuscript, bridge design became a popular subject. Railroad expansion in the United States and abroad demonstrated a great need for inexpensive and safe bridges designed by professionals. In Scotland, Robert H. Bow, apparently unaware of either Haupt's or Whipple's work, published in 1851 his Treatise on Bracing. This was followed by a work authored by two Englishmen, William T. Doyne and William B. Blood, on analysis of the stresses in diagonals of lattice trusses, appearing in the Minutes of the Proceedings of the Institution of Civil Engineers for 1851-52.⁸⁵ Haupt maintained his interest in bridge design and published two articles in the Journal of the Franklin Institute, which appeared in 1853 and in 1855.⁸⁶

⁸⁴Theodore Cooper, American Railroad Bridges (New York: Engineering News Publishing Co., 1889?), p. 21.

⁸⁵Richard S. Kirby and others, Engineering in History, p. 231; Richard S. Kirby and Philip G. Laurson, The Early Years of Modern Civil Engineering (New Haven, Conn.: Yale University Press, 1932), p. 161.

⁸⁶See Herman Haupt, "On the Resistance of the Vertical Plates of Tubular Bridges," Journal of the Franklin Institute, 3rd Series, XXVI (October, 1853), pp. 217-221; and his "Report of H. Haupt, Civ. Eng. Chairman of the Committee on Civil Engineering and Inventions, Appointed by the Maryland Institute, on Bollman's Patent Iron Suspension Railroad Bridge," Journal of the Franklin Institute, 3rd Series, XXIX (May, 1855), pp. 289-294.

Haupt literally made his professional reputation as a civil engineer in the field of bridge design, with a manuscript that was written before he turned thirty and published when he was thirty-five. This was a youthful age for an engineer to make his reputation in a field where practical experience and past achievement meant more than theoretical ability. Haupt would lean heavily on his reputation while he was working as a contractor in Massachusetts and a bridge built by his subcontractor collapsed upon testing.

But while Haupt was still looking for a publisher in 1847 the opportunity knocked which removed him from the purely technical end of railroad construction and launched him on a career in the actual organization and operation of a major railroad corporation.

CHAPTER III

UP THE CORPORATE LADDER

Haupt was a man of varied activities while living in Gettysburg. He worked on the local railroad projects, ran a boarding school, taught at the local college, joined a church, taught Sunday school, bought land, built a home, won a patent, wrote an article and a manuscript for a book, married and raised a family. Haupt fathered four children by 1847, three of whom lived. His first child, born on January 5, 1840, was named John Sterigere after Haupt's benefactor, and died of natural causes on June 9, 1843.¹ Two years after John's birth, Jacob Benjamin was born on April 20, 1842. Jacob later became a machinist and operated a resort in the mountains of Virginia.² On March 21, 1844, Lewis Muhlenberg was born, and followed in his father's footsteps by graduating from West Point, becoming a renowned civil engineer and living to the age of ninety-three.³

¹Herman Haupt, "Lines on John Sterigere," poem printed for the pupils of Oakridge Select Academy, June 1843, Adamson Collection; family genealogy drawn up by Herman Haupt, n.d., Haupt Papers, Box 19, p. 1.

²Mrs. Susan Haupt Adamson to author, April 27, 1968; Mrs. Susan Haupt Adamson to author, May 24, 1968.

³Lewis Muhlenberg Haupt, "Chronological List of Papers, Pamphlets, and Occupations, of Lewis Muhlenberg

The last child born in Gettysburg, Mary Cecilia, on August 11, 1846, never married and remained with her father until his death.⁴

While these accomplishments might have satisfied an average man, Haupt yearned for something more. The town was literally too small to hold him. He began to search for some new field of endeavor, one in which he could apply his railroad experience and demonstrate the practicality of his theoretical bridge formulations. The time was propitious, for the depression was lifting and many new internal improvement projects were on the drawing boards.⁵ One of these projects was an ambitious effort in Pennsylvania to construct a railroad bypassing the unprofitable and slow canal portion of the old state works.

The Main Line of the Pennsylvania State works as originally constructed in 1834 consisted of a combination railroad-canal between Philadelphia and Pittsburgh. East from Philadelphia, the first portion of the works was the Philadelphia and Columbia Railroad, which went as far as the town of Columbia on the Susquehanna River. At Columbia the cargo was transshipped to canal boats and towed up the

Haupt, Civil Engineer," n.d., Adamson Collection; Mrs. Susan Haupt Adamson to author, May 24, 1968; "Professor Lewis M. Haupt, A.M., C.E.," Trade Magazine, V (September, 1897), 457.

⁴Mrs. Susan Haupt Adamson to author, July 31, 1968.

⁵Calhoun, The American Civil Engineer, p. 182.

Pennsylvania canal to the town of Hollidaysburg, four miles south of Altoona, where the cargoes were again transshipped to the Allegheny Portage Railroad for the trip over the summit of the Allegheny Mountains on a series of ten inclined planes operated by stationary steam engines.⁶ A wire rope attached to the engines winched the cars over the mountains⁷ and the trip over the thirty-six miles of inclined planes usually took three to four days.⁸ Once over, the cargoes were again transshipped to canal boats and completed the journey to Pittsburgh.⁹

An improvement in the form of a privately constructed short railroad between Harrisburg and Lancaster was made in 1838 connecting with the Philadelphia and Columbia at Lancaster and bypassing a portion of the State canal.¹⁰ This small line with the imposing name of the Harrisburg, Portsmouth, Mt. Joy and Lancaster Railroad included James

⁶MacGill, History of Transportation in the United States, pp. 387-389; Henry M. Flint, The Railroads of the United States: Their History and Statistics . . . (Philadelphia: John Potter and Company, 1868), pp. 97-99.

⁷Schotter, The Pennsylvania Railroad Company, pp. 17-18; Burgess and Kennedy, History of the Pennsylvania Railroad, p. 20.

⁸Chapman, "Haupt," I-4, p. 1.

⁹The boats traveled the Conemaugh and Allegheny Rivers. Burgess and Kennedy, History of the Pennsylvania Railroad, p. 11.

¹⁰Ibid., p. 23.

Buchanan and Simon Cameron among its directors.¹¹ While the line was indeed an improvement it did not obviate the need for the many transshipments of cargo between Philadelphia and the West.

Transportation over this clumsy system could not compete with the Erie Canal in New York.¹² In addition, New York was constructing the New York and Erie Railroad between New York City and Dunkirk on Lake Erie, a rail connection was progressing between New York City and Albany on the eastern side of the Hudson River, and a series of ten short rail lines were connecting Albany with Buffalo along the route of the Erie Canal. This latter series of roads became the New York Central under the guiding hand of Erastus Corning in 1853.¹³

Another threat to Philadelphia's trade with the West was developing to the south. The Baltimore and Ohio Railroad obtained a charter from the Pennsylvania Legislature on April 21, 1846, to construct a rail line from Pittsburgh to Baltimore. This charter contained three provisions:

¹¹William Bender Wilson, History of the Pennsylvania Railroad Company: With Plan of Organization, Portraits of Officials and Biographical Sketches (Philadelphia: Henry T. Coates & Co., 1899), I, 53.

¹²Taylor, The Transportation Revolution, p. 44.

¹³The New York and Erie Railroad completed its 483-mile route by 1851. The New York and Hudson and the New York and Harlem Railroads along the Hudson were nearly completed by 1850. Stover, American Railroads, p. 28.

if a Pennsylvania railroad was chartered and raised three million dollars with ten percent paid in and put thirty miles of road under contract before July 3, 1847, the Baltimore and Ohio charter would become null.¹⁴ These provisions were no accident, for the same legislature had granted a charter to the Pennsylvania Railroad on April 13, 1846.¹⁵ The state assured itself that a line would be built to Pittsburgh and if the local corporation wished to be successful it would have to build without delay in order to void the Baltimore and Ohio's charter.

A rail connection between Philadelphia and Pittsburgh was desired because Pittsburgh was the third largest town west of the Appalachian Mountains after New Orleans and Cincinnati and was a natural entrepôt for the substantial Ohio River trade.¹⁶ Philadelphia was aware of the benefits to be derived locally by the capture of this trade and expended every effort to help finance the new

¹⁴Burgess and Kennedy, History of the Pennsylvania Railroad, pp. 37-39.

¹⁵Chapman, "Haupt," I-4, p. 3; the bill as originally brought up in the House of the Pennsylvania Legislature was entitled "an Act to incorporate the Pennsylvania Central Railroad Company." However, when the bill was signed by the governor in April, the company was known as the Pennsylvania Railroad. The two names seem to have been used interchangeably in the press, but the annual reports were addressed to the stockholders of the Pennsylvania Railroad. For purposes of clarity the latter name will be used here. Burgess and Kennedy, History of the Pennsylvania Railroad, pp. 38-39.

¹⁶Ibid., pp. 35-36.

corporation. The city purchased 30,000 shares of the corporation's stock at \$50.00 per share in return for three seats of thirteen on the board of directors. The initial stock subscription amounted to 60,570 shares owned by 2,634 individuals and corporations, for a total of \$3,028,500, or more than was stipulated by the charter. The stock was held in small lots, and only seventy-eight individuals owned one hundred shares or more.¹⁷

The bright prospects of the new railroad enabled it to attract some well known men into its ruling councils. J. Edgar Thomson, who was to become president of the Pennsylvania for over twenty years, was in 1846 the chief engineer of the Georgia Railroad, the longest continuous railroad operated by one company in the United States.¹⁸ Thomson had been employed as an engineer on the Pennsylvania State works before going South and was well qualified to locate and build the Pennsylvania Railroad.¹⁹ The road was also able to attract such men as Thomas Scott, Andrew Carnegie, George W. Cass, Simon Cameron, Samuel Morse Felton, Joseph D. Potts, and a host of prominent mercantile men of Philadelphia who were instrumental in providing the needed

¹⁷ Ibid., pp. 41-43.

¹⁸ Chapman, "Haupt," I-4, p. 3.

¹⁹ Schotter, The Pennsylvania Railroad Company, p. 33.

capital for the road in its infancy.²⁰ The first president of the line was Samuel V. Merrick, a founder of the Franklin Institute and local fire engine tycoon.²¹

Soon after the company was organized, Haupt made a trip from Gettysburg to Philadelphia in an attempt to seek a job as an engineer. He met with Merrick and found him ". . . haughty and supercilious."²² Merrick told Haupt that ". . . engineers were as plenty as blackberries . . . [and] . . . there were a hundred applications to one appointment and efforts were useless in that direction."²³ This was probably the truth, for most of the engineers had been out of work with the general economic lull following the depression of 1837. The upswing in internal improvements was

²⁰These men turn up repeatedly during Haupt's career. From the Pennsylvania Railroad they spread out into government service, the Hoosac Tunnel, the Northern Pacific, southern railroads during Reconstruction, and the oil regions of Pennsylvania during the post Civil War period.

²¹Merrick had no previous railroad experience. He was born in Maine in 1801, and trained as a wine merchant. He subsequently became a partner in a fire engine factory in Philadelphia. He was very active in Philadelphia civic affairs as a member of the Board of Trade, Board of Port Wardens, Philosophical Society, and the Franklin Institute which he helped found. Wilson, History of the Pennsylvania Railroad, II, 234.

²²Herman Haupt, "Reminiscences of Early History of the Pennsylvania Railroad Company," n.d., Pennsylvania Railroad Company, Miscellaneous, Vol. I (Hill Railway Library Collection, University of Wisconsin Library, Madison, Wis.), p. 2. Hereinafter cited as Haupt, "Pennsylvania Railroad."

²³Ibid.

just starting, and the market had not yet fully absorbed all those who were qualified.²⁴ Haupt returned to Pennsylvania College and ". . . gave the matter no further attention."²⁵

Thomson was appointed chief engineer April 9, 1847, on the recommendation of a member of the board of directors, John A. Wright, who had been an assistant to Thomson on the Georgia Railroad before returning to Pennsylvania and becoming an iron founder.²⁶ Thomson decided that the best policy would be to build those sections of the road needed to bypass the canal and connect them temporarily with the Allegheny Portage Railroad until the Pennsylvania could build their own line through the mountains.²⁷ The line would use the Philadelphia and Columbia and the Harrisburg, Portsmouth, Mt. Joy and Lancaster railroads as connections with Philadelphia.²⁸

²⁴However, within a year, the Mexican War attracted many civil engineers back into the Army and a shortage of trained men existed for domestic internal improvement projects. Calhoun, The American Civil Engineer, p. 182.

²⁵Haupt, "Pennsylvania Railroad," p. 2.

²⁶Herman Haupt, "How J. Edgar Thomson Became President of the Penn. Railroad Co. (in 1852)," n.d. (Association of American Railroads, Economics and Finance Library, Washington, D.C.), p. 1. Hereinafter cited as Haupt, "J. Edgar Thomson"; Chapman, "Haupt," I-4, p. 3.

²⁷Burgess and Kennedy, History of the Pennsylvania Railroad, p. 47.

²⁸In an attempt to bring as much of a through route as possible under its control, the Pennsylvania entered into

In pursuit of this plan, engineering parties were organized to survey and locate the first section which extended sixty miles from Harrisburg to Lewistown. The engineering corps was organized into two divisions, the eastern which was responsible for the location and construction of the line from Harrisburg to Altoona, and the western which encompassed the Altoona to Pittsburgh portion of the route. Each division had an associate engineer at its head with principal assistants for thirty-mile segments of the division and subassistants for ten-mile segments. William B. Foster, an old canal engineer, was associate engineer on the eastern division and Samuel W. Mifflin was Foster's principal assistant.²⁹

The first sixty-mile section of the eastern division as well as a fifteen-mile section east of Pittsburgh was surveyed and laid out by July 1847. The work was let to a contractor, and on August 2 the governor declared the Baltimore and Ohio's charter null.³⁰ The contractors were ready

a contract with the Harrisburg and Lancaster road on April 21, 1849. The Pennsylvania purchased its equipment and conducted operations over the line but the Lancaster had to maintain its own track and improve the property. The Pennsylvania paid the Lancaster a toll on the freight and passengers carried over the line. The Lancaster was leased by the Pennsylvania in 1861 for a period of 999 years. Ibid., pp. 53, 100; "Extracts from the Third Annual Report of the Directors of the Pennsylvania Railroad Company to the Stockholders, October 31, 1849," Journal of the Franklin Institute, XIX, 3rd Series (April, 1850), 217.

²⁹Haupt, "Pennsylvania Railroad," p. 1.

³⁰Burgess and Kennedy, History of the Pennsylvania Railroad, p. 47.

to start grading by fall when Thomson came out to the eastern division to examine its route by walking the entire sixty miles, after which he concluded that the location was defective and despite the fact that the contractors were ready to begin construction it would have to be rerouted.³¹ Samuel W. Mifflin suggested to Thomson that he could get an excellent and rapid location by hiring Haupt, who had worked for Mifflin on the York and Wrightsville Railroad in 1840.

Haupt received letters from Foster, Mifflin and John Sterigere telling him to see Thomson about the job.³² Haupt complied and went to Harrisburg to meet for the first time the unimposing, taciturn man who would do so much for his career. Their first meeting was less than a success. Haupt discovered that Thomson was a man of few words, but mistook what was shyness for arrogance. Haupt was unable to discover what Thomson wanted done, what position Haupt was to have, or his compensation.³³ Once again Haupt returned to Gettysburg where he wrote Mifflin a long letter of his impressions of Thomson, which ". . . were not very complimentary." Mifflin's immediate reply was ". . . don't be a fool, take the position and ask no questions. I know Thomson intimately. He is a queer fish, but he is in a tight

³¹Haupt, "Pennsylvania Railroad," p. 1.

³²Ibid., p. 2.

³³Almost all accounts describe Thomson as shy and quiet. Haupt supports this description. Ibid.

place with that location. You can help him and . . . he will not be ungrateful."³⁴

Haupt took Mifflin's advice and returned to Harrisburg and accepted the job. Reporting to Foster, he was told to relocate a four and one-half mile stretch of the line along the Juniata River, west of the town of Mifflin. Haupt took the field for work during the second week of December 1847, and on the same day he arrived he sent a note back to Foster by the next stage to send out another assignment, for the four and one-half mile location would take but a couple of days. Foster indicated a two-mile stretch below Mifflin.³⁵ Haupt was correct in his estimate of the time and on December 18 he wrote Anna Cecilia, who had remained in Gettysburg: "I reached the narrows having in 4 days (deducting loss of time from rain) completed all the location that . . . I was not expected to complete in less than 2 or 3 weeks."³⁶ The former parties which had gone over this section had

³⁴Ibid., pp. 2-3.

³⁵Ibid., p. 3.

³⁶ Parenthesis in the original. Herman Haupt to Anna Cecilia Haupt, December 18, 1847, Haupt Papers, Box 1. Haupt also wrote that "some of the assistants who have been in the corps for some time expressed a great deal of surprise that my lines always come right at the first trial, without having to be run over 5 or 6 times to bring them on the proper ground"; this was Haupt's first separation from his wife since their marriage and he was homesick. He wrote his wife that "I cannot say that my eyes have been wet with tears as you do but I feel very much notwithstanding." Haupt evidently discussed this with Mifflin for he wrote that "Mifflin says it almost made him sick when he first left his wife. . . ." Herman Haupt to Anna Cecilia Haupt, December 11, 1847, Haupt Papers, Box 1.

averaged about five hundred feet per day. Haupt's speed raised some questions in Foster's mind as to the quality of the work being done so he made an inspection trip. Foster found everything to his satisfaction and spent the rest of the winter trying to keep Haupt supplied with maps and profiles for more relocation work.³⁷

When work was slack, Haupt continued his investigation into bridges. He had a rodman who had been a cabinet-maker build a large model of a counterbraced arched bridge which Haupt tested and kept in his office at Mifflin on the backs of two chairs. One winter day, Thomson arrived on the stage and came into Haupt's office to thaw out by the stove. While warming himself, Thomson said nothing until he noticed Haupt's model bridge. Then a broad smile came over his face and he said, "some fellow has been trying to make a bridge and he don't [sic] know anything about it. He has got [sic] his braces in the wrong way." Haupt replied: "Excuse me, Mr. Thomson, if I differ from you, I think they are in the right way. They are not braces at all, but counterbraces."³⁸ Haupt then proceeded to explain for almost an hour his theory of bridge design to Thomson, who proved an attentive listener. Thomson then examined some drawings Haupt had made for other bridges and was

³⁷"Work was not supplied as rapidly as it was disposed of. . . ." Haupt, "Pennsylvania Railroad," pp. 3-4.

³⁸Ibid., p. 4.

impressed with their improved alignment and cheaper cost. Thomson left and two days later the subassistants of the division appeared at Haupt's office and asked for their instructions. This was the only notice Haupt received of his promotion to principal assistant. As soon as Thomson returned to Harrisburg, he sent Haupt the plans for all the bridges on the line and asked for Haupt's written comments and suggestions.³⁹

Haupt's promotion did not keep him out of the field, for he wrote Anna Cecilia from a "Shanty in the Wild Woods" on January 21, 1848, while he was directing his four engineering corps. He was also attempting to get his brother Lewis a job with the railroad, in which he was eventually successful. Lewis served as general ticket agent for over twenty years.⁴⁰ Haupt assured his wife in early March that he would soon be through with the worst of the work.⁴¹

³⁹Ibid., pp. 4-5; Chapman, "Haupt," I-4, p. 5.

⁴⁰Haupt intended to move his family to Mifflin and wrote to Anna Cecilia from there that "the people here are very plain, not half as fashionable as at Gettysburg. . . ." He also clearly did not regard his position with the Pennsylvania as permanent for he intended ". . . to comply with the wishes of the chief engineer and directors by urging the work forward with the greatest expedition and this may lead to another situation after the work here is finished. . . . If we do not sell at Gettysburg we may return to live there a while when out of employment." Herman Haupt to Anna Cecilia Haupt, January 21, 1848, Haupt Papers, Box 1.

⁴¹Haupt was in the process of rerouting some of his own lines. "My own credit as an engineer is involved and I must make the best location that the country will admit." Herman Haupt, Mifflin, Pennsylvania, to Anna Cecilia Haupt, March 1, 1848, Haupt Papers, Box 1.

When the location of Haupt's division was completed, he was promoted to a new position as assistant to the chief engineer and transferred to Harrisburg. His duties in this position were to attend to the detail work of the location parties and superintend the building of the large bridge across the Susquehanna River at Rockville, just north of Harrisburg. This relieved Thomson of the burdensome details, and he very soon left this work entirely under Haupt's charge. Haupt received charts of all the locations from the engineers, suggested improvements, marked them on the charts, had Thomson sign them, and returned them to the field.⁴² Haupt and Thomson very soon became fast friends.

The construction of the bridge across the Susquehanna proved to be Haupt's most difficult task. This was the most important and costly structure on the whole road. It was 3,680 feet long and contained twenty-three wooden spans, each 160 feet long.⁴³ In March 1849, when the bridge was in an unfinished condition, a violent wind raised the waves of the river to a height of thirty feet and carried away six spans of the bridge. This disaster led Haupt to make calculations of what would have happened had a train been on the remaining portion of the bridge at the time. Concluding that the train would have been blown into

⁴²Haupt, "Pennsylvania Railroad," p. 5.

⁴³Burgess and Kennedy, History of the Pennsylvania Railroad, p. 53; Chapman, "Haupt," I-4, p. 5.

the river, he installed heavy railings the length of the structure to prevent such an occurrence if another storm arose.⁴⁴

Haupt was not present when the bridge collapsed. Thomson had told Haupt during February that operations over the completed portion of the Pennsylvania were scheduled to commence that year and appointed Haupt as the first superintendent of transportation.⁴⁵ In preparation for his new position, Thomson asked Haupt to tour the New England Railroads and collect information on their organization, operation, and equipment and make recommendations that could be applied to the operation of the Pennsylvania Railroad. Haupt left for New York that same month and visited the New York and Erie, Boston and Providence, Providence and Worcester, Fitchburg, Western and other railroads, obtained complete sets of their forms and freight rates, talked to the management personnel and reported to Thomson.⁴⁶

For several weeks after his return in late spring, Haupt compared the observed plans with the needs of the unfinished Pennsylvania and conferred with Thomson. The two

⁴⁴Ibid. ⁴⁵Haupt, "Pennsylvania Railroad," p. 5.

⁴⁶Fourth Annual Report of the Directors of the Pennsylvania Railroad Co. to the Stockholders, December 31, 1850 (Philadelphia: Crissy & Markley, Printers, 1851), p. 41. All annual reports cited herein are located in the Association of American Railroads Library, Washington, D.C. Hereinafter cited as Fourth Annual Report, Pennsylvania Railroad.

men discussed these needs, and the resulting plan of organization drew heavily on the New England roads and the Georgia Railroad.⁴⁷ Haupt drew up the formal plan with copies of all the required forms for all the departments and submitted them to Thomson for approval. Thomson characteristically waved them away with, "you don't expect me to go over all those papers do you? I think we have discussed them sufficiently: send them into the Board."⁴⁸ The plans were submitted and adopted without alteration.

The organization submitted by Haupt consisted of four departments: transportation, maintenance of way, motive power, and maintenance of cars. All four departments were under the supervision of the superintendent of transportation. In addition to the functions specified in the titles of the departments, they also included responsibility for the accounting of the general office and disbursements for materials and labor in conducting the operations of the line.⁴⁹ This plan of organization lasted until November 1852, when the increase of business dictated that the transportation department be split into several separate departments, each headed by a superintendent.⁵⁰

⁴⁸Ibid.

⁴⁹Fourth Annual Report, Pennsylvania Railroad,
pp. 42, 52-54.

⁵⁰Pennsylvania Railroad Company, Organization for Conducting the Business of the Road, Adopted by the Board of Directors, Nov 23, 1852 (Philadelphia: Crissy & Markley, 1852), passim.

When the first sixty-mile section of the railroad opened for business between Harrisburg and Mifflin, on September 1, 1849, Haupt took over his new post⁵¹ which commanded a great deal of power and prestige.⁵² Haupt hired and fired employees of the road, was responsible for all the freight and passenger tolls, issued all the tickets, and paid the salaries of those in his department.⁵³ When Governor William Bigelow of Pennsylvania attempted to procure a position for Haupt on the board of visitors to West Point early in 1852, his reason for the recommendation was that Haupt had ". . . the patronage of the whole line from Philadelphia to Pittsburg and with it an amount of influence which few others in the State possess."⁵⁴ From September 1849, until November, 1852, while Haupt performed the duties of superintendent, he earned probably \$2,000 per year.⁵⁵

⁵¹Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 7.

⁵²Kirkland, Men, Cities and Transportation, II, 440, states that by the 1850's the office of the superintendent ". . . had become so important that it frequently overshadowed the president's and received a bigger salary. This was due to the wide range of his activities."

⁵³Ibid., p. 441.

⁵⁴William Bigelow, Governor of Pennsylvania, to -----, February 14, 1852, Haupt Papers, Box 1. Haupt did not get the appointment.

⁵⁵This is an educated guess. Haupt's assistant, Herman J. Lombaert received \$1,200 per year and Haupt thought he should get \$1,800. Haupt would not recommend a salary for his assistant higher than his own. Haupt to

When Thomson chose Haupt for the position, the board of directors expressed a hesitancy to entrust the department to an individual who had no practical experience running a railroad and who was only thirty-two years old. To dispel their doubts, Thomson agreed to assume responsibility for all of Haupt's actions and to take the title of general superintendent, making him Haupt's immediate superior.⁵⁶ However, Haupt ran the department without the close supervision of Thomson, who focused his attention on the westward construction of the railroad. On January 8, 1851, Thomson relinquished the post of general superintendent to concentrate on his position as chief engineer and Haupt formally took over the job. The old position of superintendent of transportation was abolished.⁵⁷ The responsibility for operations now devolved strictly on Haupt, and the charade of Thomson's responsibility was abolished.

One of the first tasks of the new general superintendent was to have his photograph taken in a studio, the earliest known photograph of Haupt. The picture shows a

J. Edgar Thomson, June 15, 1852, in letter press copy book of General Herman Haupt, Volume 4, 1852 (The Historical Society of Pennsylvania, Philadelphia, Pa.), p. 69, hereinafter cited as Haupt copy book, 1852.

⁵⁶Haupt, "Pennsylvania Railroad," p. 7; Haupt, "J. Edgar Thomson," p. 1.

⁵⁷Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19, p. 7; William Bender Wilson, General Superintendents of the Pennsylvania Railroad Division, Pennsylvania Railroad Company (Philadelphia: The Kensington Press, 1900), p. 10.

smooth-shaven man of thirty-four, with deep set, compelling eyes, a thin nose and a firm jaw. He had thick, wavy brown hair and although it was not a full-length photograph, he stood about five feet seven inches tall. But the focal point of the picture is the eyes--their intensity relegates everything else to the background.

Haupt earned the position of general superintendent by close attention to his duties while working under Thomson. The two men worked well together, and Haupt usually foresaw Thomson's suggestions or opposition before they were brought to his attention. Haupt made it a practice each night to outline the operations of the next day in detail in order to forestall any possible problems.⁵⁸ His attention to the smallest details extended to admonishing his assistant superintendent, Herman J. Lombaert, to put a smoking car on the trains to keep smoke from the ladies' eyes and to close all freight car doors to protect the cargoes from hot cinders.⁵⁹ Haupt attended to the washing of cars, overseeing of the peddlers on the trains, paying of doctor's bills for attending injured employees, and chasing of stray cattle off the track.⁶⁰ He positively forbade

⁵⁸Chapman, "Haupt," I-4, p. 6.

⁵⁹Haupt also had to watch for people who rode the freight trains without paying. Haupt to Herman J. Lombaert, May 7, 1852, Haupt copy book, 1852, p. 8.

⁶⁰Haupt to Thomas A. Scott, May 7, 1852, Haupt copy book, 1852, p. 3; "As to the peddling business, it is a

drinking by employees and fired anyone suspected of the offense.⁶¹ In addition to being fired, the offender usually received an admonition that alcohol ". . . is a practice which is is violation of will, injurious to yourself and subversive of discipline. . . ." ⁶² If proof of drinking was lacking, the suspect was required to take a pledge that he would not ". . . taste intoxicating drinks while . . . in the service of the company."⁶³ Haupt was also opposed to the violation of the Sabbath, saying that "I am a Sunday man to the hub and hope to see the day when the Sabbath will cease to be desecrated in Penna. by Sunday trains."⁶⁴

Haupt's relations with his employees were typical for a period when working for a railroad was attended by great risk and small reward. Haupt handled injury compensation cases as they arose on the merits of the case. He had no general company policy to guide him and therefore

nuisance but we must do some things that are not profitable. The public expects to be accommodated by the road and complain loudly if they are refused, . . ." Haupt to Lombaert, June 17, 1852, Haupt copy book, 1852, p. 78; Haupt to Dr. Isaac Bauman, July 15, 1852, Haupt copy book, 1852, p. 72; Haupt to Lombaert, August 16, 1852, Haupt copy book, 1852, p. 239.

⁶¹After being fired they were placed on a blacklist. Haupt to Scott, May 7, 1852, Haupt copy book, 1852, p. 3.

⁶²Haupt to ——— Seely, June 15, 1852, Haupt copy book, 1852, p. 70.

⁶³Haupt to William DeLany, April 6, 1852, Haupt copy book, 1852, p. 9.

⁶⁴Haupt to Bernard Lorenz, June 16, 1852, Haupt copy book, 1852, p. 74.

attempted to protect the interests of the company while making some restitution to the injured employee. If the accident was the fault of a careless employee, as in the case of a brakeman who was injured while stepping from one car to another while the train was in motion, the employee was given five dollars to pay his fare to another job.⁶⁵ However, when a conductor with a good record was killed while working, Haupt visited the family of the deceased and recommended to the board of directors that a sum be placed at the disposal of the family.⁶⁶ Sometimes Haupt was forced to take action benefitting employees that ordinarily would not have been taken, in order to advance the interests of the company. Such a case was his recommendation that the company erect boarding houses in Altoona to house employees because "men who are reliable will not work under such circumstances if they can get other situations. . . ."⁶⁷ The result of poor living conditions was that the employees ". . . do the least they can . . . and while they remain they all look out for other plans and are dissatisfied."⁶⁸

⁶⁵Haupt to Thomson, June 29, 1852, Haupt copy book, 1852, p. 108.

⁶⁶Haupt to Thomson, June 21, 1852, Haupt copy book, 1852, p. 91; ". . . every employee runs his own risk of accidents and if allowances have sometimes been made as gratuities it does not follow that the right to demand compensation from the company will be recognized." Haupt to Bauman, July 15, 1852, Haupt copy book, 1852, p. 72.

⁶⁷Haupt to Thomson, August 3, 1852, Haupt copy book, 1852, p. 216.

⁶⁸Ibid.

Haupt's powers of hiring and firing were often compromised by the problem of placating interests both inside and outside the company. Shippers, prominent investors, and company executives all had available friends or relatives seeking a position with the road. Haupt was able to plead no available positions to most of the applicants, but occasionally he was forced to hire the proffered individual. In cases where the employee was unfit for any position Haupt usually placed him as a freight commission agent in a small town where he could do little harm.⁶⁹ However, not all people recommended to Haupt turned out to be mediocre. During the summer of 1850 a prominent contractor, John Ott Rackafeller, approached Haupt on the street in Harrisburg and recommended a freight clerk in a Columbia, Pennsylvania, warehouse as a promising lad. The recommendation was so strong that Haupt hired the man, Thomas A. Scott, and gave him a job as station agent at Hollidaysburg.⁷⁰ The job was

⁶⁹In at least one case Haupt was caught in the middle when forced to fire a commission agent because of pressure from the local town, but Haupt wrote his assistant ". . . if we dismiss him we must expect the resentment of Bigbee who seems to take a very deep interest in him and we are too much in his power as yet to set him at defiance." Haupt recommended that another position be found for the man. Haupt to Lombaert, September 24, 1852, Haupt copy book, 1852, p. 272.

⁷⁰Haupt, "Pennsylvania Railroad," pp. 18-19; By 1852 Haupt felt that Scott was the second most valuable employee he had, behind his assistant superintendent. Haupt to Thomson, June 15, 1852, Haupt copy book, 1852, p. 69; Samuel Richey Kamm, "The Civil War Career of Thomas A. Scott" (unpublished Ph.D. dissertation, Department of History, University of Pennsylvania, 1940), p. 4.

fortunate for both men, for Hollidaysburg was the junction between the Pennsylvania Railroad and the state-owned Allegheny Portage Railroad, and Scott's duties consisted of working harmoniously with the state agents. Scott had worked as a toll collector on the state canals, and his experience on the state works enabled him to handle the touchy job masterfully. Scott rose quickly through the company ranks, took Haupt's old job of general superintendent in 1858, became vice-president in 1860, and president in 1874 after the death of Thomson.⁷¹ Scott hired as his personal secretary in 1853 a boy named Andrew Carnegie, then only seventeen years old.⁷² Carnegie later in life remembered his first meeting with Haupt, describing him as the ". . . first 'great man' I ever knew. I was seventeen when he passed over the inclined plane on a train on which I was fortunately [sic]. He took notice of me and I was a proud youth indeed."⁷³ Although Carnegie left the Pennsylvania Railroad in 1864, many of Haupt's employees and colleagues remained with the company and rose to positions of importance, contributing to the company's rapid growth and

⁷¹Wilson, History of the Pennsylvania Railroad, II, 242-244.

⁷²Andrew Carnegie, Autobiography of Andrew Carnegie (Cambridge, Mass.: Houghton Mifflin Company, 1920), p. 63.

⁷³Andrew Carnegie, New York, to Lewis M. Haupt, Washington, D.C., December 27, 1905, Haupt Papers, Box 9; Carnegie, New York, to Haupt, Washington, D.C., November 1, 1904, Adamson Collection.

strong postwar position in transportation, financial, and political affairs.⁷⁴

One of Haupt's primary areas of attention while general superintendent was that of formulating company rate policy. The problem of what rates to charge customers created one of the few divisions between Thomson and Haupt. Thomson's experience with the Georgia Railroad, which ran through largely agricultural and sparsely settled country, led him to favor a high charge on small volume rather than low rates to encourage a larger business. Thomson felt that any freight carried at less than two cents per ton mile was freight carried at a loss.⁷⁵ Haupt instituted a study of the business conducted by the road since its inception, analyzing the fixed and variable costs in an attempt to determine the lowest possible rate that produce could be carried with a profit. He determined that even heavy bulk freight like coal and timber could be carried at a profit for as low as six or seven mills per ton mile.⁷⁶ Haupt concluded that the policy of the road should be

⁷⁴In 1868 Thomson was president, Scott was first vice-president, Lombaert was second vice-president, and Thomas T. Firth, who was secretary of the company while Haupt was general superintendent, was treasurer; Edward Vernon (ed.), Traveler's Official Railway Guide, for the United States and Canada (New York: J. W. Pratt & Co., 1868), p. 110. Facsimile reprint by University Microfilms, Ann Arbor, Mich., 1968.

⁷⁵Haupt, "Pennsylvania Railroad," p. 21.

⁷⁶Ibid.

". . . low rates, and moderate dividends . . . [for] increase of trade, activity of business, and the extension of our great cities, constitute objects of greater importance than large profits on transportation."⁷⁷ He felt there was nothing incompatible in lowering rates to increase the volume of business and advancing the welfare of the stockholders.⁷⁸ When Haupt went on to predict that implementation of his rate policy would increase the volume of business to a million tons per year, he was ". . . regarded as a fit candidate for a lunatic asylum."⁷⁹ Despite the fact that Thomson and the board could not be induced to lower rates below fifteen mills per ton mile, Haupt was one of the first men in American railroad history to make a serious inquiry into the actual cost of transportation and formulate a policy based upon that investigation.⁸⁰ The Pennsylvania Railroad slowly adopted Haupt's recommendations piecemeal, as did most other major lines through the years.⁸¹

Haupt's more immediate problems were to fix charges that would create a profit for the company and make

⁷⁷Seventh Annual Report of the Directors of the Pennsylvania Railroad Co. to the Stockholders, February 6, 1854 (Philadelphia: Crissy & Markley, 1854), p. 34. Hereinafter cited as Seventh Annual Report, Pennsylvania Railroad.

⁷⁸Ibid.

⁷⁹Haupt, "Pennsylvania Railroad," p. 21.

⁸⁰Chapman, "Haupt," I-4, p. 18.

⁸¹Haupt, "Pennsylvania Railroad," p. 21.

arrangements for through transportation. He had to do this over a line which was incomplete, required staging between completed portions, and was bounded in two places by state-owned and operated roads.⁸² The headaches caused by these difficulties drove Haupt at times to the point of distraction.

Haupt's rate policy was guided by the importance he attached to the cultivation of local industries. He considered "the accommodation of all the business of the road regularly, promptly, and systematically is of the very greatest importance to us, business deserves encouragement, it will one day be our main dependence. . . ."⁸³ To encourage this local business, he attempted to operate under a flexible system of rates attuned to local conditions. Company policy dictated a uniform toll sheet to be met by all shippers. Thus the rates theoretically remained the same regardless of season, density of traffic, availability of cars, volume of the shipper, or length of haul.⁸⁴ In actual practice Haupt often allowed lower rates for large shippers located directly on the Pennsylvania Railroad who shipped in carload lots or those who gave some backhaul business to

⁸²Fifth Annual Report of the Directors of the Pennsylvania Railroad to the Stockholders, February 2, 1852 (Philadelphia: Crissy & Markley, 1852), pp. 59-60. Hereinafter cited as Fifth Annual Report, Pennsylvania Railroad.

⁸³Haupt to Lombaert, June 17, 1852, Haupt copy book, 1852, p. 79.

⁸⁴Fifth Annual Report, Pennsylvania Railroad, p. 79.

the line.⁸⁵ The actual solicitation of freight was handled by local freight agents along the line who were paid a commission per ton of freight forwarded. Their commission also depended on the value of the merchandise shipped and ranged from twenty cents a ton for bacon down to five cents a ton for iron ore. The agents were not responsible for loading or unloading the freight, but if they performed this duty they received an extra fifteen cents per ton.⁸⁶

It was not the freight that paid the bills on the Pennsylvania Railroad. Receipts from the passenger business in 1851 almost doubled those of freight, while the cost of carrying passengers was about half the cost of hauling freight.⁸⁷ Haupt recognized the fact that "the proper accommodations of the travelling public is of more consequence to us than the receipts for freights . . ." and set his rate policy accordingly.⁸⁸

⁸⁵Haupt to J. Isett, June 21, 1852, Haupt copy book, 1852, p. 90; Haupt to T. Locke, May 13, 1852, Haupt copy book, 1852, p. 20; Haupt to Charles Fisher, May 17, 1852, Haupt copy book, 1852, p. 35.

⁸⁶"Commissions to be charged by second class agents at way stations on the Penna. R Road. Established September 1st-1852," Haupt copy book, 1852, pp. 230-231.

⁸⁷Gross receipts from passenger and mails for 1851 were \$686,309.77 and from freight \$353,255.72. Expenses incurred by the passenger department for the year were \$112,550.88 and by the freight department \$203,940.08. Fifth Annual Report, Pennsylvania Railroad, pp. 93-95.

⁸⁸Haupt to Lombaert, July 22, 1852, Haupt copy book, 1852, p. 155.

Forty-two percent of the passenger traffic on the Pennsylvania Railroad in 1851 was through traffic, with the bulk of it moving west.⁸⁹ Haupt undertook to increase this westward flow in 1852 by obtaining a portion of the emigrant traffic from New York to the Midwest. All the major east-west railroads with the exception of the Pennsylvania maintained passenger agents in New York and advertised their rates widely in an attempt to induce the emigrants to travel their routes. In addition, the roads gave a commission to independent ticket agents for each emigrant they were able to direct over their line. The competition was keen, and the Pennsylvania Railroad was obtaining very little of this lucrative traffic. Haupt went to New York in May and again in late June in an attempt to draw away the emigrant traffic from the Buffalo and Albany route which was ". . . the principal stream of emigrant travel."⁹⁰ Haupt wrote Thomson that he was ". . . satisfied that we can turn perhaps the greater part of the Ohio River trade over the Penna RR . . .,"⁹¹ but that to accomplish this object the line must convince the independent ticket sellers in New York City that it was to their interest to sell tickets over the Pennsylvania. Haupt recommended that the agents

⁸⁹Calculated from Fifth Annual Report, Pennsylvania Railroad, pp. 97, 98.

⁹⁰Haupt to Thomson, July 2, 1852, Haupt copy book, 1852, p. 139.

⁹¹Ibid., p. 140.

be allowed a one dollar commission per emigrant, and that tickets over other railroads sold in New York be honored by the Pennsylvania Railroad.⁹² Not content to rely on the independent agents, Haupt took his own man to New York and secured an office for him on the Camden and Amboy pier where tickets could literally be sold to emigrants before they got off the boat.⁹³

There were still problems to be settled before the emigrant trade could be obtained. As the Pennsylvania Railroad had no connections into New York, Haupt had to bargain with the Camden and Amboy over the splitting of the through fares to provide this necessary link. These negotiations took over two months and resulted in the retail price of the ticket from New York to Pittsburgh set at \$5.25. The agent received seventy-five cents commission, the Camden and Amboy \$1.12 1/2 cents for their portion of the trip and the Pennsylvania Railroad received \$3.37 1/2 for the continuation of the trip to Pittsburgh.⁹⁴ Out of the amount allotted to the Pennsylvania Railroad that company had to pay the state \$1.00 and furnish the cars over the state

⁹²Ibid.

⁹³Ibid., p. 141; Haupt to J. Elliott, agent on Camden and Amboy pier, August 2, 1852, Haupt copy book, 1852, pp. 209-210.

⁹⁴Haupt to William Gatzmer, General Agent for Camden and Amboy, July 12, 1852, Haupt copy book, 1852, pp. 147-148; Haupt to Gatzmer, July 27, 1852, Haupt copy book, pp. 167-168.

portion of the line at a cost of 27 1/2 cents per passenger and pay 55 cents for the last portion of the journey to Pittsburgh by canal from Lockport. The Pennsylvania Railroad kept only \$1.55 for carrying passengers over the 211 miles of their line.⁹⁵ Tickets for emigrants wishing to go beyond Pittsburgh were also sold in New York. The price of the fare to Cincinnati was \$7.50 and to St. Louis, \$9.00.⁹⁶ The traveling time from Philadelphia to Cincinnati, via Pittsburgh and Cleveland, was forty-three hours in 1852.⁹⁷

Other passenger problems plagued Haupt as he strove to operate a department with no precedents for a guide. The problem of free passes, always present on any railroad, appeared again and again. Haupt technically had the power to issue such passes when he desired, but he confined his issuances to employees of the line traveling on company business. Passes for friends or politicians were refused by him or referred to Thomson for a decision.⁹⁸ Haupt had

⁹⁵Haupt to Gatzmer, July 12, 1852, Haupt copy book, 1852, p. 147.

⁹⁶"Proposed Emigrant Rates," n.d., Haupt copy book, 1852, p. 5.

⁹⁷Haupt to George H. Morgan, Louisville, Kentucky, August 21, 1852, Haupt copy book, 1852, p. 246.

⁹⁸Haupt to William H. Clemens, Superintendent of the Little Miami Railroad, June 17, 1852, Haupt copy book, 1852, p. 85; Haupt to W. Stringer, July 3, 1852, Haupt copy book, 1852, p. 142.

the same authority to organize and sell excursion passes to groups wishing a group fare to some point on the railroad. Haupt declined to sell excursion tickets, even to city councils, because he was ". . . not in favor of these things as a general rule and Mr. Thomson is opposed to them. . . ." ⁹⁹ Haupt wrote Thomson in August 1852, requesting that some ". . . general regulation should be adopted upon the subject . . . it frequently happens that meetings of religious, scientific, or other societies in communities . . . have the privilege of most railroads of travelling free in one direction by paying full fare on the other . . . it is not calculated to add to the popularity of any corp. to allow it to be the only exception. . . ." ¹⁰⁰ When he left the position of general superintendent in November 1852, these policies as well as others were still unsettled.

⁹⁹Haupt to O. Barnes, June 30, 1852, Haupt copy book, 1852, p. 129.

¹⁰⁰Haupt to Thomson, August 4, 1852, Haupt copy book, 1852, p. 212.

CHAPTER IV

MANAGERIAL PROBLEMS

Haupt spent the major portion of his time in 1851 and 1852 quarrelling with both the state canal commissioners and the board of directors of his own railroad. The former body, composed of three men, controlled transportation over the Philadelphia and Columbia and the Allegheny Portage railroads, which were vital links in the patchwork system possessed by the Pennsylvania Railroad before its completion. Any policy Haupt pursued to capture the through passenger and freight trade required as much negotiating with the canal commissioners as with the competing railroads. When Haupt was negotiating with the Camden and Amboy Railroad during July 1852, he wrote a member of that firm disgustedly that ". . . we have no power to make special arrangements for through passengers without the concurrence of the State Authorities whose favorable action is next to impossible for us to obtain. . . ." ¹

The Philadelphia and Columbia Railroad operated by the canal commissioners was poorly constructed and maintained. The tracks were too close together and the

¹Haupt to J. Whitehead, Newark, New Jersey, July 23, 1852, Haupt copy book, 1852, p. 161.

Elizabethtown tunnel was too small to allow the normal size passenger cars of the Pennsylvania Railroad to use their tracks. For a time the Pennsylvania was not allowed to run its specially constructed small cars over the state road.² The state leased the passenger business on its road to the private firm of Bingham and Dock and gave them the exclusive right to operate cars over the line,³ thus interjecting another party with whom Haupt had to negotiate if he wished to inaugurate through transportation.⁴ Haupt had bid on the passenger contract over the Philadelphia and Columbia which was awarded to Bingham and Dock, and felt he had been misrepresented.⁵ Haupt submitted a bid but claimed he had made it known to the commissioners that the bid was subject to discussion because the Pennsylvania Railroad ". . . was in the power of the Canal Board."⁶

²The passengers had to change between the normal size cars and the small ones by walking an eight foot long, one foot wide plank placed between the cars while drawn up side by side. The transfer required some dexterity during the winter. Wilson, History of the Pennsylvania Railroad, II, 44-45.

³The State Legislature approved the contract in 1853. Ibid., p. 45.

⁴Haupt to Thomson, May 19, 1852, Haupt copy book, 1852, p. 52.

⁵Haupt to the President and Directors of the Pennsylvania Railroad Company, July 29, 1852, Haupt copy book, 1852, pp. 178-205.

⁶Ibid., p. 187; The canal commissioners retaliated in Statement of the Canal Commissioners Relative to the Passenger Travel over the Philadelphia and Columbia Railroad (Harrisburg: O. Barrett & Co., 1852).

When Haupt failed to get the contract and his bid was represented in the press as being the lowest final figure offered, the charges and counter-charges began, and Haupt felt obliged to explain his action to his board of directors in a twenty-seven page letter. All the rancorous argument accomplished nothing, the Pennsylvania Railroad did not receive the contract until 1856 when Bingham and Dock's contract expired.⁷

The Allegheny Portage Railroad at Hollidaysburg presented problems of a different nature for Haupt. The superintendent of the Portage refused to adopt a schedule coordinated with the Pennsylvania's, and passengers were detained overnight at the foot of the inclined planes because the superintendent refused to operate at night.⁸ During the emigrant negotiations Haupt's ire was aroused by the superintendent's intransigence, Haupt writing that ". . . the stream of travel that would naturally flow over the Penna route and benefit the state as well as ourselves must continue to meet with an impossible obstruction in the Portage Road."⁹ The superintendent suggested that if Haupt wished to pass two trains per day over the Portage, the second

⁷Wilson, History of the Pennsylvania Railroad, II, 46.

⁸Haupt, "Pennsylvania Railroad," p. 23.

⁹Haupt to Capt. F. R. West, Superintendent of Portage Railroad, July 10, 1852, Haupt copy book, 1852, p. 143.

train should leave Philadelphia at 4:00 A.M. Haupt replied that it ". . . is out of the question and even if this hour so inconvenient for the public should be agreed to by the company it would be too early for a similar connection with the western road at Pittsburg. . . ." ¹⁰ Haupt finally informed the Portage that the Pennsylvania train would arrive at the usual time in the evening and that he ". . . would dump the passengers at the termini of their roads . . . and if they would not take them I would publish the facts and let the responsibility rest where it belonged." ¹¹ This threat usually led to some agreement, but did little to ingratiate Haupt with the canal commissioners. This state of affairs existed until 1857 when the Pennsylvania Railroad purchased the state works and operated a consolidated line across Pennsylvania.

While Haupt was fighting with the Portage, Philadelphia and Columbia, and Bingham and Dock, he was concurrently carrying on a running battle with the canal commissioners to remove the tonnage tax imposed on the Pennsylvania Railroad. When the railroad was chartered in 1846, the state included a provision that taxed the privately owned line five mills per ton mile on all freight carried over twenty miles. This tax was designed to protect the

¹⁰Ibid., p. 144.

¹¹Haupt, "Pennsylvania Railroad," p. 23.

state's investment of about \$40,000,000 in the state works. The tax originally took effect only between March 10 and December 1 when the state canals were ice free and in operation. It was later changed to three mills during the entire year.¹² This tax effectively prevented the Pennsylvania Railroad from carrying bulk commodities such as coal and lumber at a profit.

The contest to remove the tonnage tax began publicly in January 1851, when J. Edgar Thomson in his annual report as chief engineer pointed out that the rates on freight would be governed by the alternative routes available to the shipper. Since the Pennsylvania Railroad was the only through route that had to pay the heavy state tax, produce that would normally flow through Pennsylvania was diverted to competitor's lines to the north and south. The absence of through freight thus put the tax most heavily upon the local shippers who used the line, much to the detriment of the state.¹³

Haupt entered the fray with a letter to the president and directors of the Pennsylvania Railroad published in the annual report of January 15, 1852. In a lengthy, closely reasoned argument, Haupt sought to show that the

¹²Burgess and Kennedy, History of the Pennsylvania Railroad, p. 92; Haupt, "Pennsylvania Railroad," p. 20; Chapman, "Haupt," I-4, p. 19.

¹³Burgess and Kennedy, History of the Pennsylvania Railroad, p. 93.

Pennsylvania Railroad was not a competitor of the State works. He wrote that with ". . . the completion of the Baltimore and Ohio Railroad, and of the New York and Erie Railroad, and the enlargement of the Erie Canal, . . . and other rival lines, the through business on the Pennsylvania Canals must almost cease . . . that so far from being a competitor of the canal, the Pennsylvania Railroad is the only means of retaining the important trade. . . ." ¹⁴

Haupt reviewed the freight rates on several New York railroads and the Erie Canal and compared them with the tolls on the Pennsylvania Canal. He found in all cases that the rates on competing lines, both rail and canal, were lower than the State works. He concluded from this that ". . . the idea that ordinary canal transportation for heavy articles is cheaper than by railroad, . . . has not been true since railroads ceased to be operated by horsepower . . ." and until canal boats were enlarged to five times their present size the canals could not hope to compete with railroads. ¹⁵ While commiserating with the taxpayers over the imminent loss of their investment in the Main Line, he added ". . . the improvements in the art of transport, and especially in economy and speed, have left second-rate

¹⁴Fifth Annual Report, Pennsylvania Railroad, p. 83.

¹⁵Ibid., p. 85.

canals so far behind that competition is not possible, . . ."¹⁶

The best recourse was to lift the restrictions imposed on the Pennsylvania Railroad and allow it to capture the state's share of the trade in a free competitive market.¹⁷ He scored the state for the obstructions caused by linking the Pennsylvania to the state-owned Philadelphia and Columbia and felt that as long as this impediment existed ". . . it is a question whether any successful competition with more favored roads can be maintained."¹⁸ The state of New York had originally taxed the railroads, but rescinded the tax in the summer of 1851, which put the state in a much superior competitive position.¹⁹ Haupt

¹⁶Ibid.; He continued: "it appears therefore, that the Erie Canal should be able to afford transportation at half the expense of the Pennsylvania Canal, simply be reason of its superior dimensions, without considering the great additional advantages resulting from the small amount of lockage and the absence of all transshipments. . . ." Herman Haupt, Will the Interests of the Pennsylvania Be Advanced, or the Revenue Increased, By Continuing the Tonnage Tax Upon the Pennsylvania Railroad? (n.p.: no publisher, 1854?), p. 8, hereinafter cited as Haupt, Will the Interests of the Pennsylvania Be Advanced?

¹⁷Throughout Haupt's argument the threat is implied that if the legislature did not rescind the tonnage tax the Pennsylvania Railroad would be strong enough to force the Main Line out of business but not strong enough to compete successfully with neighboring internal improvements. Thus, if the state did not act it would be the ultimate loser.

¹⁸Fifth Annual Report, Pennsylvania Railroad, p. 86.

¹⁹New York abolished the state tax July 10, 1851. Copy of New York state law cited ibid., p. 87.

suggested that the state of Pennsylvania need not revoke the tax entirely, but rather should abandon the unprofitable portions of the state line, sell the Columbia railroad, and apply the proceeds to widening her canals.²⁰ Haupt felt that instead of taxing only the Pennsylvania Railroad, all the railroads should be charged a nominal fee and that fee applied to extinguishing the state debt on the Main Line. The fee on the railroads should not be based on a ton mile rate which discriminated against bulk produce, but rather a straight tonnage basis regardless of the distance carried.²¹

Haupt was supported in his sentiments by the board of directors, president, and chief engineer of the railroad, but their support failed to budge the state legislature.²² Haupt wished to implement his cherished policy of low rates on a high volume of produce, particularly as it applied to

²⁰Ibid., p. 89; Portions of the state works that had been unprofitable in the past suddenly showed a profit after the construction of the Pennsylvania Railroad. The Allegheny Portage Railroad was shut down during the winter months when the canals were closed, but when the Pennsylvania routed its traffic over the line it stayed open throughout the winter. During the winter of 1851-1852, the Pennsylvania paid over \$68,000 in tolls to the Portage Railroad. Haupt to Thomson, August 12, 1852, Haupt copy book, 1852, pp. 220-221.

²¹Fifth Annual Report, Pennsylvania Railroad, p. 89; Haupt, Will the Interests of the Pennsylvania Be Advanced?, p. 29.

²²This political impotency of the Pennsylvania is in contrast to the post Civil War period when the railroad virtually controlled the state political machinery.

bulk commodities such as lumber and coal. As chief engineer in 1853, he remained involved in the tonnage tax controversy. He felt that if the taxes were removed the company would be able ". . . to carry heavy freight at less than cost, and still realize a large return upon the aggregate business-. . . ." ²³ The state, possibly intrigued by Haupt's concept of making money by charging less than the cost of transport, allowed the Pennsylvania Railroad to try to haul lumber and coal at these rates. The experiment was such a success that the state rescinded the tax on these commodities in 1855. ²⁴ The tonnage tax issue was not settled until 1857 when the Pennsylvania bought the public works and assumed the state debt.

While the Pennsylvania Railroad presented a united front against the tonnage tax and the state legislature, it was seriously divided internally almost from its date of charter. ²⁵ The original divisions on the board of directors antedated Haupt's employment with the company but he became a central figure in their squabbles. The two

²³ Seventh Annual Report, Pennsylvania Railroad,
p. 35.

²⁴ The basis for Haupt's rate theory was that the cost per unit of transportation would fall with a large increase in unit volume. A large increase in bulk produce would allow the Pennsylvania to carry full carloads in longer trains on regular schedules. Burgess and Kennedy, History of the Pennsylvania Railroad, p. 93n.

²⁵ Haupt, "Pennsylvania Railroad," p. 7; Haupt, "J. Edgar Thomson," p. 1.

factions on the board arose over personality clashes and the ill-defined chain of command in the company.

When Haupt was still employed in the field, the board split into two factions. One supported the president, Samuel V. Merrick, and consisted of William C. Patterson, a banker and a man of financial repute, and two other directors.²⁶ The remaining nine members of the board supported Thomson in his opposition to the Merrick faction.²⁷ Merrick resigned as president on September 1, 1849, and Patterson was elected to the office. The Patterson-Merrick faction wished to have a superintendent of transportation appointed who would be allied with their interests and when Thomson succeeded in getting his friend Haupt appointed, the board heeded warnings of the Patterson-Merrick forces that Haupt was too young and inexperienced and gave Thomson the responsibility for Haupt's actions.²⁸

²⁶The other two directors in this group were Thomas T. Lea, a Philadelphia commission merchant, and sometimes David S. Brown, a Philadelphia dry goods merchant. Haupt, "Pennsylvania Railroad," p. 7; Burgess and Kennedy, History of the Pennsylvania Railroad p. 785, provides a list of the directors and their occupations.

²⁷The nine members friendly to Thomson were all from Philadelphia. They were George W. Carpenter, a merchant; Stephen Colwell, a lawyer and iron manufacturer; Thomas P. Cope, a merchant; Henry C. Corbit, a merchant; James Magee, a manufacturer; Christian E. Spangler, a merchant; Robert Toland, a merchant; Richard Wood, a merchant and manufacturer; and John A. Wright, foundry owner. Ibid.

²⁸Haupt, "Pennsylvania Railroad," p. 7; Haupt, "J. Edgar Thomson," p. 1.

The appointment put Haupt in a tight position for opposition forces were determined to demonstrate the correctness of their original views that Haupt was unfit for the position.

The men on the board of directors were successful businessmen who could not afford to give full attention to the affairs of the railroad.²⁹ In addition, they lacked the practical knowledge to run the line efficiently with the result that on the Pennsylvania, as well as other railroads during the 1850's, management by the boards was breaking down while the importance of the president and other elected officers was increasing.³⁰ This evolution in railroad management on the Pennsylvania led to bitter clashes between the board and the officers of the road as well as within the board itself.

The board of directors attempted to retain their control while devoting less time to the affairs of the company by appointing an executive committee composed of members of the board to oversee the actual day to day business affairs of the company. This executive committee was known as the road committee and was chaired by Merrick.³¹ In the

²⁹The ". . . directors . . . could not attain dispatch in deciding questions, rapidity and secrecy in executing decisions, or continuous attention to duty." Kirkland, Men, Cities and Transportation, II, 438.

³⁰"Though power was thus transferred to other officers, the president in particular, the process stopped short of making the latter a dictator." Ibid., p. 439.

³¹Haupt, "Pennsylvania Railroad," p. 7.

attempt to discredit Haupt as superintendent of transportation, members of the road committee often bypassed Haupt's authority and issued orders directly to the men under Haupt. One instance was on the official opening of the first leg of the road to Lewistown, when the excursion train was halted without consulting Haupt. The halt changed the schedule and forced Haupt to send an engine ahead over the line to stop an oncoming train and prevent a head-on collision.³² The committee also attempted to discredit Haupt by asking him to prepare a report on the estimated profit to be derived on an unopened section of the line, which was a virtual impossibility. Haupt submitted a report with many pages of intricate calculations that he knew nobody would read. The report prompted Patterson to remark that Haupt ". . . was a man whose communications to the Board were a perfect diarrhea of words with a constipation of ideas."³³

Haupt's relations with the board were further strained during 1850 when the board issued a new toll sheet which charged less than the cost of transport for certain sections of the line. Haupt suspended the publication of the new rates and asked the board for further instructions. He was called before the road committee and asked to recalculate the cost of transporting the stipulated items.

³²Ibid., p. 8; Haupt, "J. Edgar Thomson," p. 2.

³³Ibid., p. 1; Haupt, "Pennsylvania Railroad," p. 8.

Haupt explained that there were cost factors which the road committee had not figured in their new rates which resulted in the rates being set too low, and he proceeded to enumerate them. Merrick appreciated Haupt's argument and inquired how much the railroad could expect to lose. Haupt gave an estimate, and Merrick replied ". . . that is not a very serious loss for the Penna. Railroad, nothing to make a fuss about." Haupt agreed, and added that ". . . if the Board was willing to do any business for nothing and pay for the privilege I would always be found willing to carry out instructions after advising them of the facts."³⁴

Haupt received a letter from Patterson in February 1851, forbidding him to carry on any negotiations or correspondence with the canal commissioners.³⁵ Although they were headquartered in Harrisburg along with Haupt, all requests had to be funneled through Patterson in Philadelphia and any negotiations or business required a trip by the president to Harrisburg.³⁶ This letter precipitated an argument over the chain of command within the corporate structure. Haupt was under the impression that ". . . the

³⁴Ibid., p. 9.

³⁵Herman Haupt, Reply of the General Superintendent of the Pennsylvania Railroad to a Letter From a Large Number of Stockholders of the Company Requesting Information in Reference to the Management of the Road (Philadelphia: T. K. and P. G. Collins, Printers, 1852), p. 9. Hereinafter cited as Haupt, Reply of the General Superintendent.

³⁶Ibid., p. 13.

President, the Chief Engineer, and the General Superintendent being elected by, and deriving their authority directly from the Board of Directors, were not accountable to each other, but to the source from which their powers emanated. . . . I considered my department separate from that of the President, and myself as responsible to the Board for my official acts; . . ."³⁷

Under this system of command Haupt indicated he was willing to give ". . . a ready compliance with any request . . ." the president may have made, but he ". . . would not permit an acknowledgement of . . . [his] . . . right to command. . . ."³⁸ The whole matter was cleared up by a resolution passed by the board putting the general superintendent under the orders of the president. Haupt had replied to Patterson's letter in which he declined to admit Patterson had the power to forbid him to communicate with the canal commissioners before a copy of the resolution of the board had come into his hands. Patterson immediately charged Haupt with insubordination, but the matter was cleared up temporarily when Haupt explained that he did not know of the resolution. Haupt went to Philadelphia, met with Patterson and ". . . expressed the hope that no further misunderstanding would exist."³⁹ But the misunderstanding remained, and Haupt's relations with the board

³⁷ Ibid., p. 10.

³⁸ Ibid., p. 12.

³⁹ Ibid.

became little improved.

During the summer of 1851 Haupt again became embroiled in an argument with the board over the rates to be charged for eastern hauls of coal and iron. The board passed a resolution that "return cargoes of iron, in full loads, at the convenience of the Company, may be taken at a drawback not exceeding 22 1/2 per cent. from the regular rates, and coal at 50 per cent."⁴⁰ The resolution further stipulated that the coal and iron could be granted the drawback between Hollidaysburg and Philadelphia. Haupt ordered his subordinates to allow drawbacks only between Hollidaysburg and Harrisburg because the produce would have to travel over the state owned Philadelphia and Columbia Railroad between Harrisburg and Philadelphia. The board of canal commissioners which controlled the rates over the Philadelphia and Columbia, had under consideration a bill lowering the rates to be charged on coal and iron over their road and Haupt did not wish to ship coal and iron over the state road at the present rates because the Pennsylvania Railroad would be carrying the produce at a large net loss. Haupt's policy immediately brought out the charge of insubordination against him once more.⁴¹

To compound his differences with the board, Haupt

⁴⁰Philadelphia Bulletin, January 3, 1852, in Herman Haupt's Scrapbook, Adamson Collection, p. 8. Hereinafter cited as Haupt scrapbook.

⁴¹Ibid.

opposed their policy of declining to carry passengers and produce destined for Baltimore over the Pennsylvania. Haupt proposed to carry passengers between Pittsburgh and Baltimore at the same rate charged to passengers between Pittsburgh and Philadelphia.⁴² He felt that rather than hurting the Philadelphia trade at the expense of Baltimore's, his policy would bring revenues into the state of Pennsylvania and bolster Philadelphia's competitive position.⁴³ His policy would further provide a competitive route to the Baltimore and Ohio Railroad and perhaps reroute produce that was not being carried by the Pennsylvania Railroad. If the business gained turned out to be great enough the profits could perhaps be used to lower the cost of transportation for Philadelphia residents while maintaining the higher rates for Baltimore traffic, thus compelling ". . . Baltimore to pay the freight on a portion of the Philadelphia merchandise and produce."⁴⁴

⁴²Haupt, Reply of the General Superintendent, pp. 21-23.

⁴³"My belief is, that passengers and freight destined for Baltimore will go there, and no action on our part can prevent it. But if the whole extent of our road is used in their transit instead of the Baltimore and Ohio we are gainers. . . . We are merely taking business which, as it were, forces itself upon us, and which we do not go out of our way to solicit." Ibid., p. 23.

⁴⁴"The true principal evidently is, to get all of this business that we can conveniently accommodate, and charge upon it as much as it will bear; thus using it as a means to cheapen tolls to Philadelphia, . . ." Ibid., p. 23n.

Haupt's conflicts with the board of directors finally came to a head in October 1851, when he was ordered to report to Philadelphia and hear charges read accusing him of insubordination, disrespect, and refusal to carry out the instructions of the board.⁴⁵ The charges had been drawn up by a committee composed of members of the board of directors and entered into the company minutes.⁴⁶ The chairman of the committee, Alexander J. Derbyshire, thought it only fair that Haupt should be given the chance of explaining or refuting the charges before the entire board and offered a motion that was passed with an amendment that Haupt was required to reply in writing.⁴⁷ A motion to allow Haupt to have a copy of the charges failed and the committee was authorized only to verbally relate the essence of the accusations to Haupt.⁴⁸

The charges were based upon the possession of three letters by the committee: one sent to Haupt by his assistant superintendent of transportation; one from Haupt to

⁴⁵Haupt, "J. Edgar Thomson," p. 3; Haupt, "Pennsylvania Railroad," p. 10.

⁴⁶Samuel V. Merrick to the Editors of the Philadelphia Bulletin, January 1, 1852, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 7.

⁴⁷Ibid.; Alexander J. Derbyshire, a Philadelphia flour merchant, was elected to the board December 2, 1850. He usually sided with the Thomson faction and later became a good personal and business friend of Haupt. Burgess and Kennedy, History of the Pennsylvania Railroad, p. 786.

⁴⁸Haupt, "Pennsylvania Railroad," p. 10; Haupt, "J. Edgar Thomson," p. 3; Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 7.

Thomas Moore, the station agent at Philadelphia, and the last a letter from Haupt to President Patterson. On the basis of these three letters, he was formally charged with: (1) "That Mr. Haupt neglects or refuses to obey the instructions of the Board, unless they correspond with his own views of policy." (2) "That he will not perform the functions of his office, in making contracts which, under the rules, require the confirmation of the Board." (3) "That he declines any further connection with the management of the road east of Harrisburg. These points are clearly established in the letters, and require the grave consideration and the decided action of the Board."⁴⁹

Haupt arrived in the middle of October and reported to the office of the president where Patterson went beyond the instructions of the board and offered to allow Haupt permission to read the charges. Haupt inquired whether he might make a copy of notes for himself but was refused permission. He then handed the report back and refused to read it. Haupt left Patterson's office and went to see Derbyshire, whom Haupt knew had handed in the report, and

⁴⁹Ibid.; The letter from Haupt to Thomas Moore was considered by the board to be the most damaging. Haupt described Moore as ". . . an appointee of the President, . . . ever ready to retail to him any gossip from employees, and he furnished him a letter which was made the basis of charges of insubordination and neglect of duty." Haupt, "J. Edgar Thomson," p. 3.

requested an explanation.⁵⁰ Derbyshire explained that the bulk of the charges were based on Haupt's letter to Moore at Philadelphia, ". . . which could not be considered in any light other than a disrespectful reflection on the Board."⁵¹ Haupt was unable to recall having written such sentiments in a letter to Moore, stated this to Derbyshire, who then gave Haupt permission to return to Patterson and copy notes of the charges.⁵²

When Haupt was allowed to carefully read the formal charges, he soon discovered why they were not made available to him earlier. The letter to Moore, contained in the charges, did not seem right to Haupt, and he ordered his letterbook forwarded on the next train from Harrisburg. When the letterbook arrived, Haupt found that his letter had been quoted with omissions, interpolations, and rearranged to give it an entirely different meaning.⁵³ He

⁵⁰The actual draft of the report was written by Merrick, but since he was a known opponent of Haupt it was handled by Derbyshire. Haupt, "Pennsylvania Railroad," pp. 10-11.

⁵¹Haupt, "J. Edgar Thomson," p. 3.

⁵²Merrick later stated that he had supported a motion to allow Haupt to have a copy of the charges, but under the circumstances this is doubtful. Merrick to the Editors of the Philadelphia Bulletin, January 1, 1852, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 7.

⁵³Haupt, "Pennsylvania Railroad," pp. 11-12; Chapman, "Haupt," I-4, pp. 9-10.

immediately sought out four members of the board who were friendly to Thomson and himself and explained the faulty quotations. He asked that all members be present at the next meeting when he would present his formal defense. Haupt decided to defend himself in person rather than run the risk of having a written statement suppressed by Patterson and Merrick.⁵⁴

The next weekly meeting of the board took place on October 22, 1851. Haupt timed his visit so that he arrived just as the president was reading the correspondence. He sent in a note requesting a chance to defend himself in person which the president of the board was unable to suppress. The board moved that Haupt be allowed to testify in his own behalf.⁵⁵

Haupt entered and proceeded to refute the charges. The first charge, that of failure to obey the orders of the board, he answered by a review of the new organization of the company which put the general superintendent directly under the orders of the president.⁵⁶ The essence of Haupt's

⁵⁴One of Haupt's minor contentions with the board was that after he became general superintendent the board withdrew the right to appear before that body on policy questions that had been accorded to Thomson. Haupt had to correspond by letter and he felt his correspondence was suppressed by Patterson and Merrick. Haupt, Reply of the General Superintendent, p. 9.

⁵⁵Haupt, "Pennsylvania Railroad," p. 12.

⁵⁶Haupt to the President and Directors of the Pennsylvania Railroad Company, October 21, 1851, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, pp. 7-8.

defense was that the new organization left many of the duties of his position undefined and implemented many new regulations that hampered his effectiveness. But he added that when "the organization was approved, and contrary to my views of the interests of the company, I set to work to carry its provisions into effect."⁵⁷ However, Haupt also wrote to superintendents of other railroads to compare their duties with his and made a list of changes he thought necessary and submitted this list to the board. The specific charge drawn from the letter that Haupt had not arranged for a private siding after being ordered to do so by the board was also the result of the ill-defined chain of command within the company. Haupt had passed the information to the resident engineer for that portion of the road and had assumed that the board would inform the individual of their permission to allow the siding. A privately owned siding was not usually constructed by the company and when Haupt received no orders to construct one, he took no more action. Since Haupt was on record as being opposed to private sidings in principle, the charge had a certain degree of plausibility.⁵⁸

The second charge, that Haupt refused to make any contracts which required the confirmation of the board, also arose out of the changes in the organization. Under the new

⁵⁷Ibid., p. 8.

⁵⁸Ibid.

organization Haupt, as well as the president, was allowed to make contracts. In the specific contracts cited in the charges there was a difference of opinion between Haupt and the president over the terms of the contracts, which Haupt felt undermined his ability to bargain authoritatively.⁵⁹ Haupt found ". . . that if two persons attempted to perform the same duties, some collision or interference would be inevitable. I was disposed to relinquish a privilege in declining to make important contracts, which is, of course, very different from refusing to perform a duty."⁶⁰

Haupt considered the third charge to be the most serious. He allegedly declined to take any responsibility for the railroad east of Harrisburg.⁶¹ The letter from Haupt to Moore, cited in the charges, gave the impression that Haupt had turned over the management of the Pennsylvania's interests east of Harrisburg to the station agent at Philadelphia. Actually, the letter had been altered and a portion was omitted that specifically stated that Moore should confine his affairs to the business ". . . at your

⁵⁹Haupt also did not wish to have his name linked with what he considered unwise contracts devised by others. Ibid.

⁶⁰Ibid.

⁶¹These were the Lancaster and the Philadelphia and Columbia Roads. Haupt was responsible for making arrangements for the transportation of through freight and passengers over these roads for the Pennsylvania and for the solicitation of freight and passengers in Philadelphia which was not directly served by the Pennsylvania.

station."⁶² Haupt read the quotation from the report and then read the version contained in his letterbook, and passed the letterbook around for all the directors to read.⁶³

Haupt followed with the logical argument that if he had relinquished the responsibility for the eastern portion of the road, he would not have given instructions to the company's agent there. Haupt further produced a report written earlier by Merrick in which the latter stated that Moore was not a mere seller of tickets, but rather was ". . . in all that affects the passenger business, the Company's sole agent."⁶⁴ Thus Haupt was able to put Merrick in the position of advocating the exact situation for which the board was censuring Haupt.

Haupt then completed his defense by stating that he knew Merrick to be the actual author of the report but that he bore no ill will toward him. Merrick asked how Haupt knew the author of the supposedly secret charges. Haupt replied, "my authority was a member of the committee who acted with you from whom I learned that you had written the report

⁶²Haupt to the President and Directors of the Pennsylvania Railroad Company, October 21, 1851, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 8.

⁶³Haupt told the directors that, "I do not say that there was a design in wishing to keep it from my view. It was perhaps one of those accidental omissions. . ." but he obviously thought differently. Ibid.; Haupt, "Pennsylvania Railroad," p. 13; Haupt, "J. Edgar Thomson," p. 4.

⁶⁴Haupt to the President and Directors of the Pennsylvania Railroad Company, October 21, 1851, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 8.

but for reasons best known to yourself, you deemed it expedient to secure the services of another gentleman to present it."⁶⁵ Haupt asked for any questions but there were none and he left the meeting.

He subsequently learned that after he left the board exploded into a scene of confusion. It was moved that Haupt's defense more than explained the charges against him and that it be accepted as satisfactory. A motion was made that since the charges were entered into the minutes, the defense should also be entered.⁶⁶ John Yarrow, a member of the committee which drew up the charges, rose and asked Merrick why he had deceived the board. Merrick replied that if there were any omissions they were the consequence of an act of inadvertence.⁶⁷ Yarrow replied, "Mr.

⁶⁵Haupt probably learned this from Derbyshire. Haupt, "Pennsylvania Railroad," p. 12.

⁶⁶Haupt, "J. Edgar Thomson," p. 4.

⁶⁷Merrick had no consistent answer to the charge that he omitted a portion of Haupt's letter to Moore. Merrick first explained that "Unfortunately, the words which were omitted as unnecessary have reference only to the out door duties of the station, and hence do not help his case. The general supervision of the Columbia Railroad Line is one duty, and the out-door duties of the Philadelphia station is another. The first the Philadelphia agent has nothing to do with; the second is a duty incumbent upon him by the rules of the organization." Merrick to the Committee to whom was referred Mr. Haupt's reply, n.d. (prior to November 4, 1851), in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 8; Merrick later dropped this explanation and merely stated that ". . . no word of any sentiment in Mr. Haupt's letter, commented on by the committee, was omitted or altered. . . ." Merrick to the Editors of the Philadelphia Bulletin, January 1, 1852, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 7.

Merrick! Mr. Merrick! If I catch a thief with his hand in my pocket it is too late for him to say that he put it there by mistake."⁶⁸ The meeting ended on this note with no action being taken on either motion.

The next weekly meeting was October 29, and at this meeting Merrick was determined to bring the ouster of Haupt to a vote. He had prepared a refutation of Haupt's defense which declared it inadequate and asked for the ouster. When put to the vote of the board, it was defeated by one vote. Merrick then resigned. He later wrote, "abandoned by a part of the Committee, whose organ I had been, and not sustained by the Board, which had adopted the report by an overwhelming majority, . . . I therefore tendered my resignation, and left my place."⁶⁹ President Patterson asked that no action be taken at that meeting on Merrick's resignation and hinted that he and two other members of the board might also resign. The board asked Merrick to withdraw his resignation for the time being, as they did not wish the dissension in its ranks to be made public until the matter was settled.⁷⁰

⁶⁸Haupt, "Pennsylvania Railroad," p. 13; Haupt relates the same incident but omits all names in Haupt, "J. Edgar Thomson," p. 4.

⁶⁹Merrick to the Editors of the Philadelphia Bulletin, January 1, 1852, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 7.

⁷⁰Haupt, "J. Edgar Thomson," p. 4.

The day before the next weekly meeting, Patterson presented his resignation as president to Merrick at a secret meeting attended by two other members of the board.⁷¹ The three men read Patterson's statement and added their names to it indicating their willingness to resign.⁷² At the board meeting the following day the resignations were presented along with the information that the railroad owed more than \$500,000 in liabilities which were due within thirty days. If these obligations were not met, the credit of the company would be greatly impaired. The resignations of the four men were to take effect November 19, well within the thirty-day limit for repayment of the debt. It remained for the rest of the board to try to raise the funds while explaining the breakup of the board of the company.⁷³ Under this threat, the board acceded to Merrick's demand that either Haupt or the four board members resign, and passed a resolution by a majority of one asking for Haupt's resignation to take effect

⁷¹Merrick to the Editors of the Philadelphia Bulletin, January 1, 1852, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 7.

⁷²A copy of the resignations of Patterson, Merrick, Lea and Brown in Haupt scrapbook, p. 9.

⁷³Haupt, "Pennsylvania Railroad," p. 14; Haupt, "J. Edgar Thomson," p. 4; Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 12.

December 31, 1851.⁷⁴ Haupt tendered his resignation at the November 26 meeting of the board but by that time the board had looked into the financial affairs of the company and had found that they were not as severe as had been reported. The majority of the board, no longer faced with an either-or situation, passed a resolution asking Haupt to remain in office.⁷⁵ Haupt agreed to remain only until a suitable replacement could be found for his position, but no longer. He felt that although his reputation had been exonerated, his usefulness in helping to make company policy was at an end.⁷⁶

⁷⁴After Haupt heard of the resolution asking for his resignation he conferred with Thomson on a possible course of action. Thomson suggested Haupt write the board stating that he would be willing to resign but only after seeing the formal charges. The board sent Haupt a copy of the resolution which he later used in his defense when the controversy was brought into the newspapers. *Ibid.*; Haupt, "Pennsylvania Railroad," p. 14; Haupt, "J. Edgar Thomson," p. 4.

⁷⁵Unidentified newspaper clipping, January 3, 1852, Haupt scrapbook, p. 44.

⁷⁶"Fully acquitted by the resolution of the Board of every charge preferred against me, and gratified by the assertion of members of the Board, that my official management has been highly satisfactory. . . . I would willingly sacrifice for them anything but reputation, and cheerfully step aside, . . ." Haupt to President and Directors of the Pennsylvania Railroad, November 25, 1851, unidentified newspaper clipping, Haupt scrapbook, p. 12; It is interesting to note that throughout the struggle between the board and the elected officers of the road for control of the road's management, Haupt was actually defending the prerogatives of the board. He opposed assumption of powers by the president of the line partly because it would make his position subordinate and partly because he disliked the president and felt he could not work well with him. The board was attempting to dismiss the employee that most vocally advocated management by the board.

Haupt's letter of resignation appeared in the Philadelphia press, and a number of prominent stockholders asked for a public explanation of why Haupt had resigned. Haupt published the resolution that was passed asking him to resign but without giving the particulars of the board fight. This resolution drew a great deal of criticism of Merrick in the press, and it was decided to run an opposition ticket at the approaching annual election.⁷⁷ A change in the board was necessary to restore confidence among the stockholders and the general public. The dissension on the board was deep-seated and went beyond the clashes between Haupt and a faction of the directors. Haupt's resignation would have only removed a symbol of the dissension on the board, not the basic conflict.⁷⁸

The only reasonable choice for president of the Pennsylvania Railroad in opposition to Patterson was J. Edgar Thomson. A group composed of members of the board and prominent directors met in secret night sessions above a store in Philadelphia and planned the opposition ticket. Haupt was among the conspirators and was requested to approach Thomson to see if he would accept the nomination of the "reform" faction.⁷⁹ Thomson was inspecting the western

⁷⁷Ibid.; Haupt to stockholders, November 28, 1851, unidentified newspaper clipping, Haupt scrapbook, p. 12.

⁷⁸Haupt, "J. Edgar Thomson," p. 5.

⁷⁹Ibid.

division of the line, and Haupt and Christian E. Spangler traveled west to enlist his cooperation. After they found Thomson, they took him from the train to the home of a mutual friend, John A. Wright, to try to convince him to run. Thomson was hesitant, for he feared that if he was unsuccessful he would have to resign his position as chief engineer.⁸⁰ Haupt and Spangler convinced Thomson to run with the argument that supporters of the Merrick-Patterson faction were numerically few and composed of the "silk stocking aristocracy" and that Thomson would receive the support of ". . . the solid business men. . . ." Late that night Thomson finally gave ". . . a reluctant assent to the use of his name. . . ."⁸¹ The opposition ticket was soon announced in the press, and there ensued a bitter and vitriolic campaign by both sides for control of the company. Haupt later characterized the campaign as one ". . . which agitated the City of Philadelphia as much as a presidential election. . . ."⁸²

The contest intensified after the first of the year when Merrick released all the papers containing the charges and the defense of Haupt to the press. The board had previously voted to refrain from making the papers public, but Merrick issued them under his own name and took full

⁸⁰Ibid.; Haupt, "Pennsylvania Railroad," p. 15.

⁸¹Haupt, "J. Edgar Thomson," p. 5. ⁸²Ibid.

responsibility. He sent the papers to the editor of the Philadelphia Bulletin on January 1, 1852, and they appeared in the January 3 edition along with Haupt's rebuttal to Merrick's introductory remarks.⁸³ There was little new in the exchange except that Merrick charged that Haupt, ". . . after making extensive purchase of timber lands in Clearfield County, with a view to a lumber trade over the railroad, . . . abused his official station by recommending such an arrangement of charges as would enable him to turn that purchase to immediate profitable account."⁸⁴ Haupt freely admitted purchasing the timber lands and making recommendations to the board for setting rates for hauling lumber. But with his recommendations he also sent a statement which informed the board that he owned timber lands along the railroad and asked that the board not adopt his suggestions without an investigation by that body into the rate structure so as to remove the onus of being accused of setting rates for his own self-interest.⁸⁵

The newspapers throughout the entire month of

⁸³Merrick's publication of the documents concerning the board fight drew an angry denunciation from six board members accusing Merrick ". . . of impugning in the public newspapers the motives of a majority of the Board. . . ." Unidentified newspaper clipping, Haupt scrapbook, p. 44.

⁸⁴Merrick to the Editors of the Philadelphia Bulletin, January 1, 1852, in the Philadelphia Bulletin, January 3, 1852, Haupt scrapbook, p. 7.

⁸⁵Unidentified newspaper clipping, January 3, 1852, Haupt scrapbook, p. 44.

January 1852, abounded in charges and countercharges by both sides, usually written anonymously. The only basic policy question fought out in the election was over the financing of the construction of the railroad. Until the end of 1851, all construction was financed through the sale of stock in the company, which was the settled policy of the board. Thomson was worried that there was not enough capital available through the sale of stock, and desired to finance the construction to Pittsburgh through the sale of corporate bonds.⁸⁶

Immediately before the election, Haupt was thrust into the political maneuvering. A member of the board, James Magee, was a relation by marriage to Haupt's assistant Herman J. Lombaert, and wanted his relative to have Haupt's position. Magee had an interest in many industries along the Pennsylvania and offered Haupt the job of managing the holdings at a higher salary than he was receiving from the company. Haupt refused, and Magee, along with other prominent stockholders, went to see Thomson on the night before the election. They convinced Thomson that the chances of his ticket were materially lessened because Haupt was known to be affiliated with him. Thomson was worried and sent for Haupt and explained his fears. Haupt realized Magee was behind the move, but gave Thomson

⁸⁶Burgess and Kennedy, History of the Pennsylvania Railroad, p. 59.

permission to publish any notice of Haupt's resignation that he wished.⁸⁷ The papers on February 2, 1852, carried a notice stating that Haupt would not ". . . be a candidate for reelection."⁸⁸

The same morning the stockholders meeting convened and elected the Thomson ticket by a large margin.⁸⁹ Immediately after the election Haupt sent his resignation to Thomson, who sent for Haupt and asked him to withdraw it, showing him a copy of the newspaper notice. The job of general superintendent was a permanent one and required no election. Thomson had purposely phrased the notice in this manner in order to provide a loophole to retain Haupt. However, after resigning twice in three months, with both resignations published, Haupt wished to avoid the opprobrium of political maneuvering to retain his job. The board

⁸⁷Haupt, "Pennsylvania Railroad," pp. 15-16.

⁸⁸Ibid., p. 16.

⁸⁹One argument in Thomson's favor was ". . . that \$5,000 a year, the salary of the Chief Engineer, could be saved by electing him president, as he could perform the duties of both offices." A. K. McClure, Old Time Notes of Pennsylvania (Philadelphia: The John C. Winston Co., 1905), I, 136; The campaign became so heated that at one point the Thomson forces resorted to locking the commissioners from a Philadelphia suburb in an empty apartment to prevent the Merrick forces from persuading the commissioners to reverse their intention to vote for the Thomson ticket. Philadelphia suburbs could vote in the election because they owned shares in the line. Haupt, "Pennsylvania Railroad," p. 17.

refused to accept Haupt's resignation, but he was determined now more than ever to retire at the first opportunity.⁹⁰

⁹⁰Haupt felt he was ". . . bound in honor . . ." to sever his relations with the company. Ibid.

CHAPTER V

FINANCIAL SUCCESS

Haupt's opportunity to retire did not arrive for another seven months, and when it appeared, it came from a totally unexpected quarter. During the initial railroad fever of the 1830's the South had lagged behind New England and the Middle Atlantic states in railroad mileage by a ratio of over three to one.¹ The ratio improved only slightly in the following decade, but during the 1850's the South entered a construction spree. By 1855 the ratio was less than two to one against the South and by 1860 it was very close to even.²

¹The South includes the eleven Confederate states and the border state of Kentucky. New England includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. The Middle Atlantic states include New York, New Jersey, Pennsylvania, Delaware, Maryland, and the present state of West Virginia.

2

TABLE 1
COMPARATIVE RAILROAD MILEAGES^a

Section	Mileage			
	1840	1850	1855	1860
New England and Middle Atlantic	2,093	5,710	8,942	10,366
South	636	2,035	4,857	9,182

^aCalculated from: Poor, Manual of Railroads, 1869-1870, pp. xxvi-xxvii.

The state of Mississippi entered the railroad competition late, even by southern standards, but made spectacular gains during the 1850's.³ The first railroad in the state was a thirty-six-mile line between Vicksburg and Jackson, completed in 1846. A fourteen-mile extension of the line was started by the state in 1836 and not completed until 1850.⁴ This extension was purchased in 1852 by the Southern Railroad, a corporation formed for that purpose which leased the fourteen miles to the Vicksburg and Jackson for one-half of the net receipts accruing on their portion of the road.⁵ The Southern was a small company in 1852, its stock subscription being only \$401,000, with five percent paid in, and a cash reserve of \$5,000 derived from the sale of public lands in Mississippi. The company also owned ". . . about sixty likely negroes with carts, horses, and all necessary implements for carrying on the work, . . ."⁶

The Southern had visions of becoming a link in a

³The first railroad mileage in Mississippi was not completed until 1841. Mississippi was trailed by Florida, which recorded its first mileage in 1846, Tennessee in 1851, Texas in 1853, and Arkansas in 1860. Mississippi possessed 80 miles of completed road in 1850 and 862 miles in 1860. Ibid.

⁴William D. McCain, The Story of Jackson: A History of the Capital of Mississippi, 1821-1951 (Jackson: J. F. Hyer Publishing Co., 1953), I, 60.

⁵Jackson Flag of the Union, October 15, 1852.

⁶Thomas A. Marshall, president of the Southern Railroad, to Thomson, August 26, 1852, Haupt Papers, Box 1.

southern transcontinental railroad stretching from Charleston to Savannah, Montgomery, Selma, and across Mississippi to Vicksburg.⁷ Across the Mississippi River, the Vicksburg, Shreveport and Texas Railroad was under construction for the continuation into the West.⁸ The first problem confronting the Southern was to complete their line across Mississippi to the Alabama state line and connect with the eastern portions of the proposed transcontinental. Since it took fourteen years to construct the first fourteen miles, the management of the company was understandably anxious to speed up the completion of the remaining eighty-six miles toward Meridian.

In 1851, the Southern hired an engineer who located the first twenty-one and one-half miles west of Brandon. When the report of the location was presented to the board of directors of the Southern, the board split over the question of whether the route selected was the best possible. A minority of the board favored letting the first ten miles on contract and starting work immediately. The minority was voted down, and the president of the company, Thomas A. Marshall, was instructed to employ another engineer to

⁷Herman Haupt, Report of the Final Location of the Southern Railroad From Brandon, Mississippi to the Alabama Line, in the Direction of Charleston and Savannah (Philadelphia: T. K. and P. G. Collins, Printers, 1853), p. 9. Hereinafter cited as Haupt, Report of the Southern Railroad.

⁸Vicksburg Weekly Whig, April 20, 1853.

locate the entire line to Alabama.⁹ Marshall left Vicksburg in the summer of 1852 on a fund-raising tour across the South and traveled up the Atlantic Coast.¹⁰ When Marshall reached Philadelphia in August, he wrote a letter to Thomson asking if he knew of an engineer who was ". . . first rate . . . a gentleman of skill and practical experience . . . and in all respects reliable . . ." who was available for work in Mississippi. Marshall authorized Thomson ". . . to contract with him for whatever salary you think reasonable and fair. . . ."¹¹

Thomson passed Marshall's letter of August 26 to Haupt, who had repeatedly made known his intention of retiring. Haupt was interested, and Thomson informed Marshall that Haupt was available. Thomson stipulated that Haupt would locate the road, prepare the necessary plans for construction, and place portions of the road under contract. For these duties Haupt was to be appointed chief engineer and receive \$500 per month and traveling expenses to Brandon. Haupt was made responsible for raising the necessary corps of engineers and selecting a principal assistant engineer. Thomson concluded, "I consider it fortunate for your company that peculiar circumstances

⁹Vicksburg Weekly Whig, April 6, 1853.

¹⁰Vicksburg Weekly Whig, November 20, 1852.

¹¹Marshall to Thomson, August 26, 1852, Haupt Papers, Box 1.

have rendered it in my power to make so advantageous an arrangement for you."¹²

Haupt tendered his resignation for the third time within a year to the board of directors of the Pennsylvania Railroad on September 11, 1852, effective November 1. He thanked the board for ". . . the evidences of personal friendship that I have received from all the members of the present Board . . ." and reviewed the phenomenal growth of the Pennsylvania since his affiliation.¹³

Haupt immediately set to work to settle his affairs in Pennsylvania and organize a party for the survey. Two days after submitting his resignation he hired a principal assistant engineer. By September 27 he had set the departure date of the engineering parties for October 10.¹⁴ The corps was organized into two groups, each consisting ". . . of five and perhaps six white with an equal number of blacks."¹⁵ Haupt was replaced as general superintendent by his assistant, Herman J. Lombaert,¹⁶ and for assistant

¹²Thomson to Marshall, September 2, 1852, Haupt Papers, Box 1.

¹³Underlining added. Haupt to the Board of Directors of the Pennsylvania Railroad Company, September 11, 1852, Haupt copy book, 1852, pp. 265-266.

¹⁴Haupt to J. L. Gregg, engineer, September 13, 1852, Haupt copy book, 1852, p. 269; Haupt to Marshall, September 27, 1852, Haupt copy book, 1852, pp. 277-278. Haupt planned to leave November 1.

¹⁵Ibid., p. 278. ¹⁶Chapman, "Haupt," I-4, p. 14.

superintendent Haupt recommended Tom Scott, the station agent at Hollidaysburg who had shown such marked ability. Thomson accepted the recommendation and named Scott to the post.¹⁷ As a parting gesture, the officers and workmen on the railroad gave Haupt a seven-piece set of silver inscribed, "as a mark of their appreciation of his private worth and professional services while General Superintendent, 1852."¹⁸

Haupt, finally realizing that he and his family would never return to Gettysburg, sold Oakridge on October 23, for \$3,500.¹⁹ He had moved his family from Harrisburg to Philadelphia by 1852, and Anna Cecilia and the children, who now numbered five, remained there while Haupt went South. He left for Mississippi on November 1, right on schedule.²⁰

The first corps of engineers left Philadelphia October 10 and traveled down the Ohio and Mississippi Rivers to Vicksburg, but low water and a scarcity of boats on the Ohio delayed their journey and the corps was not ready to

¹⁷Haupt, "Pennsylvania Railroad," p. 19.

¹⁸Copy of inscription on silver set, Adamson collection.

¹⁹Chapman, "Haupt," I-4, p. 15a.

²⁰Two children were born in Harrisburg: Ella Catherine on July 12, 1848, and Ada Rosaline on May 5, 1850. Ada lived just over one year. A son, Herman, Jr., was born in Philadelphia, May 7, 1852. Family genealogy drawn up by Herman Haupt, n.d., Haupt Papers, Box 19, p. 1; Unidentified newspaper clipping, February 25, 1853, Haupt scrapbook, p. 40.

take the field at Brandon until November 10. The second corps left two weeks later than the first and encountered even greater delays, not reaching the Alabama line to begin work until December 5. Haupt traveled by land through South Carolina, Georgia, and Alabama and examined those railroads that were segments of the proposed southern trans-continental. The trip also enabled him to scout the territory for the proposed Southern Railroad across Mississippi. He talked to prominent railroad men along the route and found ". . . a warm interest expressed in the success of the present efforts to complete the Southern Railroad."²¹ He found that there was a unanimous opinion ". . . that the Road was vitally important to the cities of Charleston and Savannah."²² Haupt also engaged in duties more relevant to his position. He acquired from the chief engineer of the Alabama and Tennessee Railroad the results of surveys in eastern Mississippi with topographical information and data on the rise and fall of the rivers in the region.²³

When Haupt arrived at the eastern encampment of his corps he had already selected three probable routes for the line through the state and instructed the corps to proceed westward and examine these routes. He then went to Brandon and sent that corps eastward over the same routes. Haupt

²¹Unidentified newspaper clipping, February 25, 1853, Haupt scrapbook, p. 40.

²²Ibid. ²³Ibid.

continued to Vicksburg and consulted with Marshall on the proposed routes and asked for additional instructions. Marshall gave Haupt the widest latitude in which to work. Haupt was allowed to ". . . make the best location of which its topography would admit, uninfluenced by any previous surveys . . . and regardless of any local or sectional considerations."²⁴ Marshall did not even stipulate the location of the eastern terminus, as long as it was at the Alabama line.

With these broad instructions, Haupt and his corps finished the surveys and drew the maps of the location by February 8, 1853.²⁵ The shortness of the two-month survey quieted rumblings in the local press by the disaffected minority on the board of directors who had predicted that because the ". . . Engineer corps being composed of unacclimated Northern men, . . . the location could not be completed in less than one year, . . ."²⁶

²⁴Ibid.

²⁵Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 44.

²⁶Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 46; Some of the disaffection was pointed toward Haupt and his corps. A poem, entitled "A Southern Railroad Ballad," was printed and distributed which described a hypothetical boat trip to the South by the northern engineering corps:

She had on board the company
Who came with the design
To build the road from Brandon
To the Alabama line;

Haupt's location was a decided improvement over the old partial route that had been surveyed previously. Not only did the new location extend to the Alabama state line, but the savings on the first twenty-one and one-half miles of the new location amounted to \$15,000, even when the two miles of the old location that had been graded and readied for track were abandoned.²⁷ Haupt calculated that the entire railroad could be constructed for \$533,255.²⁸ The final report issued in July 1853, gave a cheerful evaluation of the prospects for the new railroad. Haupt advised that

There was Cameron and Snodgrass,
 And Haupt, the engineer,
 And other members of the firm,
 Whose names do not appear.
 The table groaned with luscious cheer,
 The champagne bottles popt,
 And Cameron joked with Snodgrass,
 And Snodgrass joked with Haupt;
 And gaily talked they of the hour,
 When they would own the fee,
 Of half the lands that Congress
 Might grant the Company.

With fervent unction, too, they spoke
 Of that enormous sum,
 The Southern Road was bound to pay,
 As soon as they should come;
 And in their warm imaginings,
 They pocketed the tin,
 And little dreamed that five per cent
 Had scarcely been paid in. . . .

The poem went on to describe happily how the ship floundered and all were lost. Copy of the poem by "Percy," Haupt scrapbook, p. 131.

²⁷Unidentified newspaper clipping, February 25, 1853, Haupt scrapbook, p. 42.

²⁸Haupt, Report of the Southern Railroad, p. 3.

although ". . . the country lying between Brandon and the Alabama line. . . . is still a forest, of which the Indian and the deer are the most numerous occupants; . . ." the line had a bright future because of the numerous roads planned to intersect it.²⁹ Furthermore, if the Southern followed Haupt's policy and charged exceedingly low rates to attract a greater volume of produce and investment into the territory surrounding the line, then it could maintain itself until the connections were completed.³⁰

Haupt was enthusiastic over the prospects of a southern transcontinental route to the Pacific. He based his enthusiasm on the lack of severe winter weather and the approaching completion of a large portion of the proposed southern line that would give the route stronger claims to favorable consideration by Congress. He noted that only about 600 miles remained, from the West Texas border to the Pacific, after all the chartered and partially constructed lines were completed. Haupt warned that the remaining mileage should be built by a private corporation because "the experience of several of the States in the management

²⁹Ibid., p. 14.

³⁰Haupt also advised against an inflexible rate system. ". . . I regard that provision in your charter which requires the rates of toll to be fixed, annually published, and not changed oftener than once a year, to be an unnecessary and injurious restriction, . . . the fact that a similar restriction exists upon the State works of Pennsylvania, is no evidence of its value." Ibid., p. 30.

of public works, has shown that the dominant political party invariably uses the patronage of such works as an instrument of corruption and a source of power, increases expenses for private gain, and rewards with office the partisan services of unworthy men."³¹

Haupt completed his duties in Mississippi in late February or early March with the filing of his preliminary report. He thanked Thomas Marshall, resigned his position as chief engineer and ". . . bid farewell to the 'Sunny South'--. . . ." ³² His principal assistant remained in Mississippi to assume Haupt's position as chief engineer and to put the road under contract, and Haupt returned to his family in Philadelphia. ³³

Haupt arrived in Philadelphia without prospects for immediate employment, but through a fortunate circumstance, Edward Miller, the chief engineer of the Pennsylvania Railroad, resigned. Haupt was unanimously elected by the board of directors to Miller's position at a salary of \$4,000 per

³¹Ibid., p. 13.

³²Unidentified newspaper clipping, February 25, 1853, Haupt scrapbook, p. 42.

³³The terms of Haupt's contract with the Southern Railroad stipulated that he had the option of remaining with that line in any engineering capacity he wished after the surveys were completed. Thomson to Marshall, September 2, 1852, Haupt Papers, Box 1; The Southern was not completed to the Alabama state line until 1861. The road is now owned by the Illinois Central system.

year starting April 20, 1853.³⁴ Haupt directed his attention in his new post toward the completion of the line from Altoona to Pittsburgh and the double-tracking of the already completed line on both the eastern and western divisions.³⁵

The completion of the western division was of the greatest priority, since when it was finished the Pennsylvania would be free from its dependence upon the Allegheny Portage Railroad. The greatest impediment on the division was the 3,612-foot Allegheny Mountain tunnel which gave Haupt a taste of the unique engineering problems associated with driving a tunnel.³⁶ The bore was well under way when Haupt became chief engineer. It was dug by hand labor from both ends and three shafts were sunk to the grade. The middle shaft required a large fifty-horsepower steam engine to carry away from 120 to 175 gallons of water per minute that poured into the headings.³⁷ The tunnel ran through a four-foot vein of coal, fireclay, and shale, which when exposed to air and moisture swelled, cracked, and fell, giving the roof a treacherous character and requiring complete

³⁴Chapman, "Haupt," I-4, p. 15; Haupt to Henry Cartwright, partner in the Hoosac tunnel contract, May 28, 1860, Haupt Papers, Box 2.

³⁵Chapman, "Haupt," I-4, p. 15.

³⁶Wilson, History of the Pennsylvania Railroad Company, I, 159.

³⁷Seventh Annual Report, Pennsylvania Railroad, p. 28.

arching to prevent collapse on passing trains.³⁸ The arching was done with bricks made from clay found in the neighborhood, but the tunnel was opened for traffic February 15, 1854, before the arching was completed. The roof was supported by temporary timbers and the arching was carried on while the tunnel was in use, at considerable extra expense.³⁹ The opening of the tunnel signaled the completion of the western division, and for the first time the Pennsylvania Railroad possessed an unbroken line from Harrisburg to Pittsburgh. The connection to Philadelphia was still over the Lancaster Railroad and the Philadelphia and Columbia, the latter still under state control.⁴⁰

The large increase in business during 1852 indicated to the board of directors that a double-track line was necessary for accommodation of the increased traffic. The chief engineer was directed to immediately start the double-tracking and the necessary iron was ordered and when Haupt assumed his position, he pushed the grading and track

³⁸Henry S. Drinker, Tunneling, Explosive Compounds and Rock Drills (3rd ed.; New York: John Wiley & Sons, 1888), p. 419. Hereinafter cited as Drinker, Tunneling.

³⁹Eighth Annual Report of the Directors of the Pennsylvania Rail Road Company to the Stockholders, February 5, 1855 (Philadelphia: Crissy & Markley, Printers, 1855), p. 22. Hereinafter cited as Eighth Annual Report, Pennsylvania Railroad.

⁴⁰Burgess and Kennedy, History of the Pennsylvania Railroad, p. 65.

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⁴⁰Burgess and Kennedy, History of the Pennsylvania Railroad, p. 65.

laying as rapidly as possible. He became embroiled in labor difficulties at the tunnel and on the track laying crews that arose from the great demand for laborers by other roads and the high wages offered for their services. Haupt had to raise the wages of his workers, suspend unnecessary work ". . . and by keeping up a thorough police organization, strikes were prevented. . . ." ⁴¹ The unsettled financial conditions in Europe arising from the Crimean War in late 1853 and early 1854 put the Pennsylvania Railroad under a financial strain since most of its construction contracts were now financed by money raised on the sale of corporate bonds on the London market. ⁴² Haupt was forced to suspend almost all the work on the second track and available money was used for maintenance of existing facilities. The Pennsylvania had double-tracked 136 miles by January 1856 and 111 miles remained to be completed. ⁴³

⁴¹ Seventh Annual Report, Pennsylvania Railroad, p. 28; The miner's wages were raised from \$1.25 per day to \$1.50, laborers went from \$1.00 to \$1.25 per eight-hour day. Drinker, Tunneling, p. 420; These wages were higher than the general rise in miner's wages. Coal miners in 1853 averaged \$1.08 per day in Pennsylvania but in 1854 their average salary had risen to \$1.25 per day. U.S. Department of Labor, History of Wages in the United States from Colonial Times to 1928, Bulletin 604 (1934), p. 330. Republished by Gales Research Company, Detroit, 1966.

⁴² Burgess and Kennedy, History of the Pennsylvania Railroad, p. 68.

⁴³ Ninth Annual Report of the Directors of the Pennsylvania Rail Road to the Stockholders, February 4, 1856 (Philadelphia: Crissy & Markley, Printers, 1856), pp. 21-22. Hereinafter cited as Ninth Annual Report, Pennsylvania Railroad.

The opening of the entire line of the Pennsylvania Railroad in February 1854 gave a sense of urgency to the long standing policy of the railroad of seeking control of connections into the Midwest. If outright control was not possible, then the Pennsylvania was interested in some arrangement that would insure both the friendship of western lines and guarantees that these lines would not be absorbed by competing routes. As early as 1847 a committee of the board of directors journeyed over the proposed connections to Cincinnati and advised the board to take some action to secure control of the roads. Because the Pennsylvania was then in the early stages of construction, no action was taken.⁴⁴ However, in 1851, negotiations took place between the board of the Pennsylvania and the Ohio and Pennsylvania Railroad, which connected Pittsburgh and Cleveland. The negotiations were not successful, but by 1855 the Pennsylvania Railroad had invested \$300,000 in the stock of the road.⁴⁵ At the western end of the Ohio and Pennsylvania, the Ohio and Indiana Railroad was constructing its line from Crestline, Ohio, to Fort Wayne, Indiana, with a contemplated extension to Logansport, Peoria, and Burlington. Another branch was planned to diverge northward from Fort

⁴⁴ Burgess and Kennedy, History of the Pennsylvania Railroad, pp. 74-75.

⁴⁵ Ibid., p. 75; Eighth Annual Report, Pennsylvania Railroad, p. 20.

Wayne to Chicago.⁴⁶

The Ohio and Indiana was in financial trouble by the end of 1853, and Thomson asked Haupt to attend a meeting of the board of directors of the line held in the spring of 1854. Haupt was instructed to ". . . ascertain the extent of the pecuniary liabilities of their company, the cause of their financial difficulties, and the position of affairs generally, . . ."⁴⁷ Haupt traveled to Fort Wayne to meet with the board and reported back to Thomson in April 1854. He recommended that the Pennsylvania aid the Ohio and Indiana to the extent of \$737,701 needed to insure the completion of the line. He also recommended that some aid be given to the Fort Wayne and Chicago Railroad planned to connect those two cities.⁴⁸ Haupt was not interested in the plans to complete the Ohio and Indiana to Burlington. He was struck by the future importance of Chicago as the rail hub of the nation. In his report Haupt gave a summary of the nine railroads projected to serve Chicago and advocated a connection between Philadelphia and

⁴⁶Burgess and Kennedy, History of the Pennsylvania Railroad, p. 20.

⁴⁷Report of H. Haupt, Chief Engineer of the Pennsylvania Rail Road Company with a communication from the President of the Ohio & Pennsylvania Rail Road Company on the expediency of aiding the Ohio and Indiana and the Fort Wayne and Chicago Rail Road Companies to Complete their Roads (Philadelphia: Crissy & Markley, Printers, 1854), p. 15.

⁴⁸Ibid., pp. 21, 29.

Chicago because ". . . manifest destiny appears to have decreed that Chicago shall become the greatest inland city of the American continent."⁴⁹ Haupt was optimistic that a rail connection to Chicago over the Pennsylvania Railroad would divert some of the lakes trade away from the Erie Canal and New York City.⁵⁰

Unfortunately the board of directors did not heed the wisdom of Haupt's report. The Pennsylvania did subscribe \$300,000 to the stock of the Ohio and Indiana, but that amount was not sufficient to cover construction costs. No money was subscribed to the Fort Wayne and Chicago Railroad.⁵¹ As a result, by 1856 these companies along with the Ohio and Pennsylvania Railroad were in serious financial difficulties. In an effort to remain solvent the firms consolidated under the name of the Pittsburgh, Fort Wayne & Chicago Railroad. Thomson was elected to the board to represent the interests of the Pennsylvania Railroad and was also elected as chief engineer in 1858 to complete the road to Chicago. The work was carried on by stripping the old Allegheny Portage Railroad, which was purchased by the Pennsylvania in 1857, of its rails, spikes, and chairs and using them on the western line. By January 1, 1859, the road entered Chicago. The Pennsylvania had approximately

⁴⁹Ibid., p. 34. ⁵⁰Ibid.

⁵¹Eighth Annual Report, Pennsylvania Railroad,
p. 20.

\$2,000,000 in the three original lines by 1861, money and effort that need not have been expended if they had followed Haupt's advice in 1854.⁵²

In 1854 Haupt turned his attention to the development of western trade by the improvement of navigation on the Ohio River. An extraordinary drought and a long period of low water on the Ohio that year attracted Haupt's attention, and he determined to devise some plan that would maintain a six-foot level at all times on the river while at the same time controlling the annual spring floods. Accomplishment of this dual objective, Haupt thought, ". . . would place Pittsburg at the head of the most extended inland navigation in the world and confer upon the City of Philadelphia benefits more substantial and permanent than the most lavish expenditure on western railroads could secure."⁵³ If improvement was possible on the Ohio, then ". . . the products of the extended region tributary to it will find their cheapest outlet over the Pennsylvania Railroad and through Philadelphia . . .," and the trade of the

⁵²Burgess and Kennedy, History of the Pennsylvania Railroad, pp. 177-181; "I reported that the acquisition of the Chicago connection was of vital importance to the interests of the Pennsylvania Railroad and that the aid should be extended without hesitation. . . . The opportunity was lost and it cost at least ten times as much subsequently to prevent the line from falling into the hands of the Baltimore and Ohio Railroad Company." Haupt, "Pennsylvania Railroad," p. 22.

⁵³Eighth Annual Report, Pennsylvania Railroad, p. 22.

great lakes ". . . may be secured before it reaches the lake ports. . . ."54

A study of navigation on the Ohio River had been undertaken earlier by Charles Ellet, a prominent civil engineer, who recommended a vast system of reservoirs to hold the spring floodwaters and release them during the summer period of low water. Ellet's findings were published in the newspapers, and Haupt used these findings as a starting point for his own investigation.⁵⁵ Haupt found Ellet's plan impractical, for the volume of water that must be held in the spring was so large that no site could be found for a single reservoir which would cover fifty-five square miles at a depth of fifty feet.⁵⁶ It was unlikely that several smaller sites could be found either, and if a series of smaller reservoirs were constructed behind low dams thirty feet high, about 175 of them were needed to contain the spring water. Further, it would be impossible to guarantee that any reservoir would be empty when the spring floods commenced so the reservoirs would have to be of a larger capacity to hold both the new and old water.⁵⁷

⁵⁴Ibid., pp. 22-23.

⁵⁵Charles Ellet, "The Ohio River and its Capacity for Improvement by Reservoirs," unidentified newspaper clipping, n.d., Haupt scrapbook, p. 26.

⁵⁶Herman Haupt, A Consideration of the Plans Proposed for the Improvement of the Ohio River (Philadelphia: T. K. and P. G. Collins, Printers, 1855), p. 20. Hereinafter cited as Haupt, Ohio River.

⁵⁷Ibid., pp. 21, 24.

Haupt also found serious disadvantages with the idea of a series of high dams constructed down the Ohio with locks around them for commercial vessels. He calculated that these dams would raise the level of the water in the spring to such an extent that although floods would be reduced downriver, the backup of water would inundate Pittsburgh unless huge reservoirs were constructed. Cost was another factor for the estimate for these schemes was over \$6,000,000.⁵⁸

Haupt's plans for improvement of the Ohio borrowed from all of the above. Haupt proposed the construction of low dams in the river, no more than ten feet high, spaced about twelve miles apart down the river. Each dam would contain an open sluice 200 feet wide at the water line of six feet, to allow the water to run between dams. The sluices would be connected by means of channels so slanted that the flow never exceeded five miles per hour, to allow steamboats to ascend against the current. Thus, the Ohio would consist alternately of long stretches of slackwater connected by channels of navigation. To ensure enough water for summer navigation and hold water to prevent spring floods, Haupt proposed a large reservoir, about one-tenth the size of that proposed by Ellet, constructed by damming the Allegheny River, making that body a slackwater.

⁵⁸Ibid., pp. 33-35.

Additional capacity could be secured by creating slack-waters at the sources of the Monongahela and Youghiogheny Rivers. Less reservoir capacity was needed because the flow of the water was decreased by gently sloped chutes between the dams and the narrowed channel.⁵⁹ The channels could be constructed of earth covered with rip rap which would be sufficient to protect the banks from erosion.⁶⁰

To implement this plan Haupt suggested that a private company undertake the construction with funds partially provided by state and federal governments. Haupt concluded that if the improvement of the Ohio was to benefit New England, New York, Ohio, and states farther west, along with the southern states bordering the Mississippi, then the federal government should take some of the responsibility for the improvement.⁶¹ But Haupt did not wait for government aid; he organized a company, secured a charter from the Pennsylvania legislature May 7, 1855, and raised \$110,000 by stock subscription. He also began negotiation with state governments in an effort to gain their support

⁵⁹Ibid., pp. 35-50.

⁶⁰Since the water of the Ohio River averaged over ten feet deep only eighty-one days each year, the remainder of the time the channel banks would be exposed and less susceptible to erosion. Ibid., p. 46.

⁶¹Haupt did not want the government to take any of the responsibility for the management of the improvement. Ibid., pp. 52-53.

for the enterprise.⁶² But before he finalized the preparations, his attentions were directed to an engineering task of even greater magnitude, the Hoosac tunnel. He temporarily shelved his plans for the Ohio, although he again sought government aid for the project in the 1860's and 1880's.

When the entire line of the Pennsylvania Railroad was opened in February 1854, Haupt's duties became regularized and minor in comparison to his earlier efforts, and his capacities and energy began to outrun the job. The work of double-tracking the entire line and the building of a depot in Philadelphia in 1854 was not stimulating.⁶³ Haupt took the first step toward retirement in April 1855, when he sent a communication to the board ". . . declining any compensation for services, except when actually employed." He remained as de facto chief engineer devoting about

⁶²Ninth Annual Report, Pennsylvania Railroad, p. 23.

⁶³The state legislature passed an act March 3, 1853, which allowed the Pennsylvania the right to operate its own cars over the Philadelphia and Columbia Railroad into Philadelphia. This necessitated the construction of a terminal facility. Schotter, The Pennsylvania Railroad Company, p. 36; The terminal constructed while Haupt was chief engineer contained 92,750 square feet of usable space. The cars were brought into the city from West Philadelphia by teams of horses. Wilson, History of the Pennsylvania Railroad, I, 175; Haupt also usually represented the Pennsylvania Railroad at meetings of the trunk lines in New York City where an attempt was made to set rates. Haupt first attended these meetings before he went to Mississippi and continued to represent the Pennsylvania while serving as chief engineer. Haupt, "Pennsylvania Railroad," pp. 23-24.

one-third of his time to duties on the Pennsylvania.⁶⁴

His affiliation with the railroad was not completely ended, however, for on November 23, 1855, he was elected by the select and common councils of Philadelphia to the board of directors of the Pennsylvania.⁶⁵ His election was not unopposed, as his old protagonist, Colonel Patterson, was the president of the select council of Philadelphia. When Haupt was put forward as a candidate for the board, Patterson invited the council to a reception at his house and started a movement to elect Merrick to the position. The movement was unsuccessful and Haupt, the regular candidate, was elected by a large majority.⁶⁶ When Haupt took his position on the board he declined to accept any compensation for his part-time services as chief engineer, but nominally continued as head of that department.⁶⁷

Haupt could well afford to dispense with his salary as chief engineer for by the end of 1855 he received an annual income from his outside activities that never fell below \$25,000 to \$30,000, almost 100 times the average

⁶⁴Ninth Annual Report, Pennsylvania Railroad, p. 22.

⁶⁵Three directors represented the city of Philadelphia. Haupt did not take office until March 3, 1856. Burgess and Kennedy, History of the Pennsylvania Railroad, p. 786.

⁶⁶Haupt, "Pennsylvania Railroad," p. 19.

⁶⁷Ninth Annual Report, Pennsylvania Railroad, p. 22.

national annual wage.⁶⁸ Haupt had been engaged since 1851 in the buying and selling of real estate and the organization and financing of coal and timber companies along the Pennsylvania Railroad. Haupt wrote that he initially entered these businesses ". . . solely to develop the resources of the country and increase the business of the road. Not an idea of any private or personal advantage at first entered into my calculations. It was not until I found it necessary to take some interest myself as an evidence of my own faith that I could succeed in getting anything started. . . ."⁶⁹ When Haupt did finally invest in these businesses, he found them very profitable indeed. By 1856 he had a minimum personal worth of at least \$473,160 in securities, which when added to his real estate holdings must have totaled well over a half a million dollars.⁷⁰ Since his cumulative salary between June 1851 and

⁶⁸Haupt to Cartwright, May 28, 1860, Haupt Papers, Box 2; Wage statistics prior to the Civil War are sketchy, but Clarence D. Long, Wages and Earnings in the United States 1860-1890 (Princeton, N.J.: Princeton University Press, 1960), pp. 41-42, has estimated from census reports that the average annual wage received by workers in manufacturing industries in 1860 was \$297.

⁶⁹Haupt to Thomson, December 9, 1861, Haupt Papers, Box 3.

⁷⁰Haupt's financial records prior to 1856 are incomplete. The figure of \$473,160 has been calculated by piecing together the securities Haupt hypothecated to raise money for the Hoosac tunnel. The total is probably larger. Chapman estimated Haupt's total worth to be \$500,000. Chapman, "Haupt," I-4, p. 21.

December 1855 totalled a little over \$15,000, the charge of using his official position for personal benefit was brought against him and other officers of the Pennsylvania Railroad.⁷¹

Haupt was extremely sensitive to this charge, and in the absence of any clearly defined corporate ruling on the problem he worked out his own code of what was permissible and adhered to it. He felt ". . . that an officer of the Pennsylvania Railroad has a right to invest his private means as he sees fit, and whether he selects houses, farms, bank stock, or lands in Clearfield, is the business of no one but himself. If, while holding office on the road, I should sell timber from my own lands to the Company, even at lower rates than it could be procured elsewhere, I would commit an act which, although often done under similar circumstances, and considered proper, my own convictions of duty and self-respect would not allow me to approve."⁷²

⁷¹Haupt received the following salaries:

June 1, 1851-December 31, 1851 @ \$2,000/year	\$1,166
January 1, 1852-November 1, 1852 "	1,834
November 1, 1852-March 1, 1853 @ \$500/month	2,000
May 1, 1853-December 31, 1853 \$ \$4,000/year	2,667
January 1, 1854-December 31, 1855 "	8,000
	<hr/> \$15,667

Haupt wrote to Thomson concerning the charges of misuse of official position that "I believe, and have frequently asserted this belief, that you too are entirely free from every imputation of this kind, but it is generally believed that many others connected with the Penna. R.R. Co. are not." Haupt to Thomson, December 9, 1861, Haupt Papers, Box 3.

⁷²Unidentified newspaper clipping, January 3, 1852, Haupt scrapbook, p. 44.

Following his own code Haupt gave orders while chief engineer that no timber was to be purchased by the Pennsylvania Railroad from his Clearfield company. Haupt's associates in the Clearfield enterprise were much annoyed at this ruling which they considered to be ". . . extremely fastidious."⁷³

Haupt's notions of corporate propriety were stricter than those prevailing among his contemporaries. During the 1850's it was common for railroad officers to sell products from their private companies to the railroad at the best prices obtainable.⁷⁴ It was not until the 1870's that such practices were seriously questioned by railroad leaders and not until the 1880's that they were specifically condemned.⁷⁵ While Haupt, as an officer of the Pennsylvania, did not do business directly with any of the companies in which he owned an interest, there were other more indirect ways in which his position was an asset. Improvements to rail facilities were made near private interests raising the value of the real estate.⁷⁶ Rates were important and Haupt attempted to have them lowered on coal and timber with little success until after he was no longer connected with the

⁷³Haupt to Thomson, December 9, 1861, Haupt Papers, Box 3.

⁷⁴Cochran, Railroad Leaders, p. 224. ⁷⁵Ibid.

⁷⁶Haupt to William P. Dysart, business associate, March 30, 1864, Haupt Papers, Box 4.

railroad.⁷⁷ And most important, as an officer of a major railroad he was given access to men who possessed the necessary capital and resources for investment and development of promising areas. The Pennsylvania Railroad had a full share of these men.

Haupt was involved with at least ten men who were investing in businesses along the Pennsylvania. Six of these men, J. Edgar Thomson, Thomas Scott, Christian Spangler, James Magee, George Howell, and Alexander J. Derbyshire were members of the board of directors of the Pennsylvania. A seventh, John Scott, became a member after the Civil War.⁷⁸ Two of the remaining, John Covode and William Larimer, were early investors in coal fields developing around Pittsburgh.⁷⁹ The tenth man, William P. Dysart, was a local property owner along the road who saw a chance to improve the value of his holdings. All of these men, and particularly the first six and Haupt, were involved in a series of complicated, interlocking financial

⁷⁷Herman Haupt, The Coal Business on the Pennsylvania Railroad: A Communication Addressed to the President, Directors, and Stockholders of the Pennsylvania Railroad, on the Cost of Transportation (Philadelphia: T. K. and P. G. Collins, Printers, 1857), passim.

⁷⁸Burgess and Kennedy, History of the Pennsylvania Railroad, pp. 785-788.

⁷⁹Covode was a Whig and later a Republican congressman from Pennsylvania from 1855 to 1863 and from 1867 to 1869. Biographical Directory of the American Congress 1774-1961 (Washington, D.C.: U.S. Government Printing Office, 1961), p. 743; Haupt to General William Larimer, August 30, 1852, Haupt copy book, 1852, p. 261.

dealings.⁸⁰ Their investments were concentrated in a roughly triangular area bounded by Clearfield on the north and the towns of Tipton and Dysart on the south, the latter towns located about ten miles north of Altoona. In this area they started the Clearfield Coal and Lumber Company and the Allegheny Railroad and Coal Company. Dysart was connected with the former company and Haupt later wrote to him that ". . . it was I who caused a station and slopes to be made at Tipton thereby greatly enhancing the value of all your property, without my aid you never could have accomplished this."⁸¹ Haupt also had Dysart appointed as station agent at Tipton. As president of the Clearfield Company, Haupt raised \$20,000 from his friends to construct a plank road between Tipton and Clearfield to enable the company to get their lumber out of the region.⁸² Haupt was also involved

⁸⁰The group had investments in the same companies, supplied collateral for each other, co-signed notes, and loaned each other money.

⁸¹Haupt to Dysart, March 30, 1864, Haupt Papers, Box 4.

⁸²Haupt to Thomson, September 24, 1852, Haupt copy book, 1852, p. 271; Letterhead, Haupt to Cartwright, November 28, 1856, Haupt Papers, Box 1; Haupt wrote to the president of the Baltimore and Susquehanna Railroad soliciting money for the Clearfield plank road. "The stock I feel pretty confident will pay as well as any in the state. I think 20 per cent. Shall I put you down for \$2,000, a small amount in comparison with the importance of the road to you." Haupt to R. M. Maguire, May 13, 1852, Haupt copy book, 1852, p. 23.

in the construction of a sawmill on the premises.⁸³

Haupt gave the Allegheny Railroad and Coal Company a great deal less help than he did the Clearfield concern. The rates on the Pennsylvania Railroad for hauling coal were so high that they were prohibitive. Haupt consistently tried to get Thomson to lower the rates but failed. Haupt later admonished Thomson that ". . . I could never get you to carry Allegheny coal at a rate which I represented was the utmost that would permit the business to be carried on, but when the Company was ruined and the whole concern bankrupt you put down the rates and are now charging lower than I ever asked. . . ."⁸⁴ Thomson lowered the rates only after Haupt purchased his interest in the Allegheny company with real estate of equal value.⁸⁵ Haupt was president of the company and had great hopes for its future success.⁸⁶ It prospered until Haupt was unable to devote the necessary time to its development; then the concern fell into financial disarray and became plagued with faulty

⁸³Haupt ordered the saws for the mill and Magee paid the bill. Haupt to C. Page, Baltimore, October 18, 1852, Haupt copy book, 1852, p. 290.

⁸⁴Haupt to Thomson, December 9, 1861, Haupt Papers, Box 3.

⁸⁵Ibid.

⁸⁶Christian Spangler was treasurer. Letterhead, Haupt to Cartwright, November 28, 1856, Haupt Papers, Box 1.

land titles in 1858.⁸⁷

Haupt began his investments in 1851 before his fight with the board of directors and less than a year later he wrote "my property has got income of \$6,500 cash."⁸⁸ He invested in the Clearfield and Allegheny operations and considered purchasing 40,000 acres near Pittsburgh from an Englishman, subdividing the property into farms, selling alternate lots and retaining the rest for appreciation.⁸⁹ He also invested in the Youghioghny Coal Company, Pillston Coal Company, Northwestern Coal Company, and telegraph stock.⁹⁰ Reputedly he also invested in the Westmoreland Coal Company and the Platte Valley Railroad in

⁸⁷The company owned 43,000 acres lying over two coal seams and owned exclusive coal and mining rights on 40,000 additional acres. Report of the Committee to visit and inspect the Allegheny Railroad and Coal Company property, November 2, 1858, Haupt Papers, Box 2.

⁸⁸Haupt to D. Deardoroff, Allegheny City, Pennsylvania, May 17, 1852, Haupt copy book, 1852, p. 36.

⁸⁹Haupt to A. Phillips, Futuria, England, October 18, 1852, Haupt copy book, 1852, p. 295.

⁹⁰By 1856 Haupt attempted or had hypothecated 4,900 shares of the Allegheny Railroad and Coal Company with par value of \$25.00 per share and a market value of about \$10; 4,600 shares of Clearfield Coal and Lumber Company, worth about the same as the Allegheny company since they were closely tied together; 2,000 shares of the Youghioghny Coal Company, with unknown value; 500 shares of Pillston Coal Company, with unknown value; 156 shares of Greenwich Improvement Company, of unknown value; \$2,000 par value of telegraph stock, worth about \$10,000 in 1856; \$15,000 note of the Northwestern Coal Company; 500 shares of Northwestern Coal Company, with unknown value; a farm at Warren, Pennsylvania; and probably some West Philadelphia lots. Haupt claimed that in addition to the above he still had about \$100,000 worth of securities.

Nebraska.⁹¹ Between July 1854 and December 1855, Haupt borrowed almost \$38,000 from his financial partners to purchase stock and real estate.⁹²

It seemed that everything Haupt touched turned to gold. In a period of four years he amassed a considerable fortune by purchasing at the right time and place. He was allied with some of the leading financial men of Philadelphia, his credit was excellent, he was chief engineer of a major railroad and about to become a member of its board of directors. He had gained a reputation of technical excellence with his bridge treatise and was now well on his way to a reputation for financial adroitness. His position was such by 1855, that men came to him for help with financial propositions of varying possibilities. One of the men who approached Haupt was his friend, Samuel M. Lane, president of the North Western Railroad Company of Pennsylvania, who

⁹¹Haupt probably did invest in the Westmoreland Coal Company as its founders, John Covode and William Larimer, were friends of Haupt's. A. John Dodds states that Covode, Larimer, Haupt, and Thomson were the original incorporators of the Platte Valley Railroad Company in Nebraska in 1857. This is unlikely for by 1857 Haupt had no surplus capital to invest. A. John Dodds, "Honest John Covode," The Western Pennsylvania Historical Magazine, XVI (August, 1933), 176.

⁹²Haupt borrowed from Dysart, Larimer, John Scott, Covode, Thomson, Howell, Spangler, and Magee. He borrowed \$5,780 for cash, \$9,378 to invest for others, \$21,651 for the purchase of stocks, and \$955 for real estate. The repayment periods ranged from three months to four years. List of Bills Payable by H. Haupt as they stood December 31st, 1855, Haupt Papers, Box 18.

had been asked to take an interest in a contract to dig a tunnel in Massachusetts. Lane asked Haupt ". . . to examine the papers and give my opinion as to the practicability of the tunnel and the safety of taking an interest in the contract, . . ." ⁹³ This was the entering wedge that led Haupt in a period of two short years to the brink of bankruptcy from which he never fully recovered.

⁹³Herman Haupt, Closing Argument of H. Haupt on behalf of the Troy and Greenfield Railroad Co. Before the Joint Special Committee of the Senate and House of Representatives of Massachusetts, at a Public Hearing on Thursday, March 6, 1862 (Boston: Wright and Potter, Printers, 1862), p. 4, hereinafter cited as Haupt, Closing Argument of Haupt on behalf of the Troy & Greenfield Railroad Co.

CHAPTER VI

INTO THE ABYSS

When New York state completed the Erie Canal in 1825, the port city of Boston found itself relegated to a position very similar to that of Philadelphia. Produce that might normally flow through Boston to the west was now rerouted through the port of New York and west over the Erie Canal.¹ If a transportation route could be forged across Massachusetts from Boston to somewhere near Albany, then produce flowing over the Erie Canal could be siphoned off through Massachusetts. An attempt was made to tap this lucrative trade in 1825 when the legislature of Massachusetts appointed a commission to report on the feasibility of constructing a canal across the state to some point near the junction of the Erie Canal and the Hudson River.² This started a train of events that would ultimately affect the career of Haupt.

The commission, led by civil engineer Loammi

¹Stephen Salisbury, The State, the Investor, and the Railroad: The Boston and Albany, 1825-1867 (Cambridge, Mass.: Harvard University Press, 1967), p. 5.

²"The Story of the Hoosac Tunnel," The Atlantic Monthly, XLIX (March 1882), 289-290; "The Story of the Great American Tunnel," The Nation, XXI (August 1875), 114.

Baldwin, explored a northern and a southern route across Massachusetts. Baldwin reported that the northern route was the most feasible, particularly west of the Connecticut River, where the canal could follow the valleys of the Deerfield and Hoosic Rivers through the Berkshires.³ Unfortunately, lying squarely across the path of the Hoosic Valley was the four-mile long Hoosac mountain.⁴ In lieu of an expensive and time consuming series of locks over the mountain, Baldwin recommended a tunnel. He calculated that it would require the excavation of 211,200 cubic yards of stone at \$4.25 per cubic yard, or a total cost of \$920,832.⁵ Baldwin described his tunnel route as one which ". . . the finger of Providence had pointed out . . . from the East to the West"; to which a somewhat more cynical observer retorted, "it's a great pity the same finger wasn't thrust through the mountain."⁶

The tunnel route canal idea met with much opposition because of its cost and the engineering difficulties created

³Drinker, Tunneling, pp. 316-317.

⁴George Pierce Baker, The Formation of the New England Railroad Systems: A Study of Railroad Combination in the Nineteenth Century (Cambridge, Mass.: Harvard University Press, 1937), p. 179.

⁵Charles Francis Adams, Jr., Railroads: Their Origin and Problems (New York: G. P. Putnam's Sons, 1878), p. 54.

⁶"The Story of the Hoosac Tunnel," The Atlantic Monthly, XLIX (March 1882), 293.

by driving a four-mile-long tunnel through the Hoosac.⁷ A reporter in the Boston Courier calculated from Baldwin's report that it would take fifty-two years and nineteen days to dig the tunnel.⁸ The canal idea was supplanted in the 1826 legislature by the suggestion of building a railroad across the state, the first railroad project laid before any state legislature in the United States. The prospect of the railroad dampened enthusiasm for the canal and the whole project slumbered for almost a decade.⁹

When the project was revised and a transportation link finally built across the state, it consisted of two separate railroads linked together over the old southern route rejected by Baldwin in 1825. The first of these railroad companies, the Boston and Worcester, was chartered June 23, 1831, and it completed the forty-four miles between the towns in its corporate name on July 4, 1835.¹⁰

⁷The canal would have required 220 locks carrying the water to an elevation of 1,448 feet above sea level. Chapman, "Haupt," IV, p. 1.

⁸Using another basis for calculation, the same correspondent estimated it would take one hundred and eighty-two years to complete the tunnel. Charles F. Adams, Jr., "The Canal and Railroad Enterprise of Boston," Memorial History of Boston, ed. Justin Winsor (Boston: J. R. Osgood & Co., 1882), IV, 115.

⁹"The Story of the Hoosac Tunnel," The Atlantic Monthly, XLIX (March 1882), 292.

¹⁰Charles E. Fisher, "Whistler's Railroad: The Western Railroad of Massachusetts," The Railway & Locomotive Historical Society Bulletin, LXIX (May 1947), 13. Hereinafter cited as Fisher, "Whistler's Railroad"; Salisbury, State, Investor and Railroad, pp. 79, 93.

The next link westward was chartered in March, 1833.¹¹ This link, the Western Railroad, ran through sparsely settled country between Worcester, Springfield, and the Hudson River, making it difficult for the company to raise stock subscriptions. The state intervened to insure adequate financial support and subscribed \$1,000,000 to the stock of the line in April 1836, and construction started in January 1837, just as the financial panic of that year began.¹² The state engineers soon discovered that the actual construction costs were much greater than originally anticipated and the company again turned to the state for financial aid. The state responded and underwrote \$2,100,000 worth of corporate bonds in return for a first mortgage on the road in February 1838.¹³ Further state loans of \$1,300,000 in March 1839 and \$700,000 in March 1841 provided the necessary capital to complete the road which opened in 1842.¹⁴ The finished line traced a tortuous route across the state with heavy grades, numerous

¹¹Salisbury, State, Investor and Railroad, p. 133.

¹²Ibid., pp. 133-134.

¹³The legislative act granting the loan stipulated that any premiums realized on the sale of the bonds were to go into a sinking fund along with a sum equal to about one percent of the total yearly bond issue. The railroad did not have to pay into the sinking fund. Any deficit realized from the sale of the bonds was charged against the construction account. Ibid., pp. 147, 367.

¹⁴Fisher, "Whistler's Railroad," pp. 28, 32, 34.

bridges, and sharp curves, making it a somewhat inefficient internal improvement.¹⁵ The total state investment stood at \$5,000,000, without which the road undoubtedly would not have been completed.

The completion of the southern route aroused jealousy among the northern third of the state, which was left without adequate transportation while paying for an improvement which benefitted their southern neighbors.¹⁶ As a result a series of railroads was started west from Boston to fill the needs of the northern portion of Massachusetts. The first of these, the Boston and Fitchburg, was completed in 1845, under the guiding hand of Alvah Crocker, a Fitchburg paper manufacturer.¹⁷ The second link, the Vermont and Massachusetts, was chartered in 1844 by Crocker and Elias Hasket Derby, a wealthy Boston lawyer, to run from Fitchburg to Brattleboro, Vermont, with a branch to Greenfield, Massachusetts. The line was completed to Greenfield in 1850.¹⁸ The third link, the Troy & Greenfield Railroad, chartered by Crocker in 1848 over

¹⁵The road snaked across Massachusetts to an elevation at Washington Summit of 1,456 feet. Grades on the line were as steep as eighty-three feet per mile. Ibid., pp. 38-39.

¹⁶Baker, Formation of New England Railroad Systems, p. 179.

¹⁷William Bond Wheelwright, The Life and Times of Alvah Crocker (Boston: Privately Printed, 1923), p. 43.

¹⁸Salisbury, State, Investor and Railroad, p. 280.

the opposition of the Western Railroad,¹⁹ was to run from Greenfield, through the Hoosac mountain, to meet any railroad from, at, or near, Troy, New York.²⁰ The route ran through the southwest corner of Vermont, necessitating a separate charter from the Vermont legislature. This portion of the line was chartered as the Southern Vermont Railroad Company.²¹

The sparse population in this part of the state, coupled with the high estimates for the tunnel and roadbed, made it virtually impossible for the Troy & Greenfield to raise the necessary funds to prosecute the work.²² Although some work was begun on the road west of the mountain, Crocker was forced to seek extensions of the charter from the legislature and finally appealed to the state for financial aid. The first appeal in 1851 was refused by the legislature due to the efficient lobbying of the Western Railroad and because the state was hesitant to invest in

¹⁹Wheelwright, The Life and Times of Alvah Crocker, p. 43.

²⁰The road's capital stock was limited to \$3,500,000; Drinker, Tunneling, p. 317.

²¹Chapman, "Haupt," IV, pp. 1-2.

²²The engineer for the road estimated that the cost of the tunnel with a double track would be \$1,948,557 at \$4.63 1/2 per cubic yard and the work would take 1,556 days to complete. The cost of the road and equipment was estimated to be an additional \$1,401,443. Drinker, Tunneling, p. 317; Gosta E. Sandstrom, The History of Tunneling (London: Barrie and Rockliff, 1963), p. 153.

another through route that would jeopardize its already considerable investment in the Western Railroad.²³

The fourth appeal in 1854 finally met with success; on April 15, the legislature passed an act granting a state mortgage loan of \$2,000,000 for construction of the road and tunnel.²⁴ However, the act established more stringent safeguards for state money than were stipulated in the loans to the Western Railroad. The first \$100,000 of the loan was payable only after seven miles of the road was built and 1,000 feet of the tunnel completed. Furthermore, the money would not be paid until 6,000 shares of stock had been subscribed at a par value of \$100 per share with twenty percent paid in. A third condition prescribed that within three months after receiving the state bonds, ten percent of each payment must be returned to the state to establish a sinking fund for the redemption of the bonds. The act further specified that the tunnel could be either single or double tracked at the discretion of the railroad

²³Crocker appealed to the state for a loan of \$2,000,000 for the tunnel and based his appeal on the fact that the Erie Canal carried 2,500,000 tons of freight eastward to Albany in 1850 and only 60,900 tons of that freight was transported across the Western Railroad to Boston. The proposed Troy & Greenfield would be fourteen miles shorter than the Western, with easier curves and slopes, improving through transportation to Boston. The Western managed to block the proposed loan legislation for three years. Wheelwright, The Life and Times of Alvah Crocker, p. 46.

²⁴Kirkland, Men, Cities, and Transportation, I, 386, 400.

company.²⁵

It was nine months before the Troy & Greenfield found a contractor willing to undertake the risk of digging the tunnel.²⁶ The railroad contracted with Edward W. Serrell of New York City to build and equip the forty-two mile line and dig the tunnel. The terms accorded Serrell in the contract indicated the lack of financial resources of the railroad. For the construction of a single track railroad and a double track tunnel, Serrell was to receive the \$2,000,000 state loan, \$1,350,000 in Troy & Greenfield stock, and only \$220,000 in cash. Serrell was only to receive the cash provided other parties subscribed to \$500,000 worth of the stock.²⁷ If they did not, Serrell was to be paid the \$220,000 in six percent company bonds. Serrell may also have been responsible for returning to the railroad twenty percent of the stock he received in payment for work to make that corporation eligible for the first state installment. If the installment was met, Serrell was also responsible for paying the ten percent into the state sinking fund, although he could keep any premium he might

²⁵Ibid., p. 400; Chapman, "Haupt," IV, p. 2. Unlike the state loan to the Western Railroad, the Troy & Greenfield had to raise the money and construct portions of the line before the state loan became available.

²⁶A small amount of grading on the roadbed had been done by the railroad but no work had been started on the tunnel. Chapman, "Haupt," IV, p. 2.

²⁷Ibid., pp. 2-3; Drinker, Tunneling, p. 318.

derive from the sale of the bonds.²⁸ Serrell never reached the point where he could apply for the state installment, so this problem was left for the next contractor. Thus, for performing all the construction work, Serrell was to receive a maximum of only \$220,000 in cash from a \$3,570,000 contract. All the financing of the work until reaching the first installment rested upon Serrell.

Serrell attempted to raise the necessary capital by entering into partnership with William A. Galbraith and William H. Brown, both residents of Erie, Pennsylvania. This partnership attempted to raise money by using two securities to show financial means, but in 1856 it was learned that these securities had been borrowed for this purpose and were later returned.²⁹ Serrell, like the railroad, attempted to construct the line with someone else's money and put the financial burden on the subcontractors. His first subcontractor quickly transferred the contract to a second, who gave it up for lack of capital. One of the employees, D. N. Stanton, filed an attachment on the work to secure payment, and agreed to resume construction under the name of D. N.

²⁸The responsibility for the sinking fund made the state loan actually worth only \$1,800,000, for the ten percent would be returned directly from the loan. The state bonds were issued in London and the pound sterling was regarded as worth \$4.44 by the state. Chapman, "Haupt," IV, pp. 2-4; "Payments by State Treas. to T.&G. R.R. Co.," July 12, 1861, Haupt Papers, Box 18.

²⁹Unfortunately for Serrell, neither Galbraith nor Brown was able to furnish the funds necessary to carry on the work either. Chapman, "Haupt," IV, pp. 3-4.

Stanton & Company.³⁰

As the result of this confusion, Serrell was in financial trouble by the end of 1855 and the Troy & Greenfield for all practical purposes was bankrupt. What little work Serrell had completed was done on the railroad and not on the tunnel.³¹ Unless 1,000 feet could be hacked out of the mountain, he had no chance of reaching the first installment of the state loan. Serrell had deliberately delayed starting the tunnel, for he had contracted with the Novelty Works of New York City to construct a steam powered behemoth weighing several tons that was expected to chew a hole eight feet in diameter through the mountain.³² It was obvious that to reach the state loan the firm needed additional capital and William Galbraith undertook to find the money.

Galbraith approached Haupt's friend, Samuel M. Lane, on December 1, 1855, with the proposition that Lane enter the contract and provide some capital. Galbraith

³⁰Stanton and his brother, John C. Stanton, were from North Adams, Massachusetts. They went into partnership with William W. Fitch of Hartford, Connecticut. Ibid., p. 5.

³¹By January, 1855, the Troy & Greenfield had collected \$100,317 in paid in subscriptions and expended \$101,839.32 on construction. The road did not file an annual report for the year 1855. "Fifth Annual Report of the Troy and Greenfield Railroad Company, January 1855," Abstract of the Returns of the Railroad Corporations of the State of Massachusetts for 1853, 1854, 1855, prepared by the Secretary of the Commonwealth (Boston: William White, Printer to the State, 1855), pp. 258-260.

³²Chapman, "Haupt," IV, p. 5.

presented a rosy picture and the prospects of a financial whirlwind to be reaped by a small investment. He wrote Lane: ". . . we want men rather than money and attention and management more than capital. . . . Mr. Serrell and I will raise a considerable part from our own means . . . we have already earned \$57,000 of the company's 6 per cent bonds besides about \$12,000 audited on account of stock. The State loan is \$2,000,000, payable in Massachusetts 5 per cent sterling bonds, principle and interest payable in London--These bonds are worth about 110-113 . . . thus giving us in that single item over a hundred thousand dollars of advantages."³³ Galbraith estimated that the tunnel could be dug at a cost of between \$2.00 and \$2.50 per cubic yard, but that if they excavated it themselves they could do it for the lower figure and realize a profit of \$971,520 dollars. "These figures look extravagant, but there is the contract and the pay (far better than contractors usually get) and. . . . we have none of the risks ordinarily incidental to contracts. . . ."³⁴

The proposition interested Lane, and he sought

³³William Galbraith to Samuel M. Lane, December 1, 1855, Haupt Papers, Box 1.

³⁴Parentheses in the original. Galbraith neglected to mention in the letter the provision of the state loan act requiring repayment of ten percent of the loan into the state sinking fund. Attached to Lane's letter is a note written by Haupt stating, "Don't [sic] say that we must pay ten per cent, could not have been ignorant of the fact." Ibid.; Chapman, "Haupt," IV, p. 6.

professional advice from someone who had experience in tunneling as well as an engineering background. Lane came to Haupt and asked his opinion on the cost estimates and the probability of completion.³⁵ Haupt examined Galbraith's letter and copies of the contract and gave the tentative opinion that the work was indeed feasible but withheld final judgment until he personally examined the work.³⁶ Haupt went to Massachusetts in December 1855, and inspected the proposed site of the tunnel and railroad. He reported to Lane that ". . . no room existed for any doubts as to the respectability of the corporation, or its ability to fulfill engagements. . . . The Tunnel was not only practicable, but the most favorably located for safe and economical working of any . . . and with the State loan, the payment of the subscription already made, and an additional subscription from Boston of only one-twentieth as much as Philadelphia had given in a case precisely similar, the whole work would be financially provided for, and leave a large profit to the contractors."³⁷

³⁵Chapman, "Haupt," IV, p. 6; Haupt, Reminiscences, p. xx.

³⁶Haupt, Closing Argument of Haupt on behalf of the Troy & Greenfield Railroad Co., p. 4.

³⁷Ibid., pp. 4-5; Haupt wrote to engineers in the United States and in Europe who had experience in tunneling for estimates on the cost for digging a tunnel. The estimates ranged from \$60 to \$65 per linear foot. Haupt concluded that if the tunnel was dug without shafts it would take about five years, but he was toying with sinking three

But the case between Massachusetts and Pennsylvania was not precisely the same. Pennsylvania had little intra-state friction during the construction of the Pennsylvania Railroad; users of the State works agreed that they were inefficient and slow. The Western Railroad in Massachusetts was not the finest internal improvement in the country but it was far better adapted to local needs than the Pennsylvania canal system had been. Furthermore, the Troy & Greenfield depended almost entirely upon the cooperation of the state government to provide the needed funds to finish the line, which was not the case in Pennsylvania. Lastly, the papers furnished by Galbraith implied that the financial means necessary to reach the first installment could easily be met by Serrell & Company in conjunction with whomever else wished to invest.³⁸

The bright prospects of the enterprise as drawn by Galbraith and Haupt's favorable recommendation induced Lane

shafts to give the miners eight faces on which to work. He was torn between certainty and doubt over the practicability of constructing the tunnel. "We have been too much alarmed about tunnel because we have had none-. . .," and later, "They say it will take Jesus to do it-. . ." Haupt tentatively concluded that it would cost about \$3.00 per cubic foot of excavated rock to complete the task. "Notes of Herman Haupt on tunnel estimates," n.d., in the Troy & Greenfield Railroad Papers (Baker Library, Harvard University), hereinafter cited as Troy & Greenfield Papers.

³⁸Galbraith had given the impression to Lane that only an additional \$30,000 to \$40,000 was needed to complete the work necessary for the first installment of the state loan. Galbraith to Lane, December 1, 1855, Haupt Papers, Box 1.

to invest in the project. Haupt was also asked to take an interest but declined, stating that his Pennsylvania interests were more than enough to keep him occupied.³⁹ However, Haupt soon reconsidered and early in January 1856 decided to invest in the project. He came into the firm for many reasons and under many suppositions which later proved false. He thought, though did not investigate, that Serrell & Company were reputable contractors with financial backing and good credit.⁴⁰ He failed entirely to differentiate between conditions in Massachusetts and those in Pennsylvania regarding a major state improvement. Haupt had been eminently successful in all that he attempted in Pennsylvania and reasoned that under similar conditions he should succeed equally well elsewhere.⁴¹ He was undoubtedly fascinated by the technical enormity and complexity along with the professional reputation to be gained by digging the longest

³⁹Lane decided to invest \$20,000 in the work. Haupt, Closing Argument of Haupt on behalf of the Troy & Greenfield Railroad Co., p. 5.

⁴⁰Haupt was not personally acquainted with all the men involved in the contract. He ". . . had entire confidence in Lane. . . . [who] . . . endorsed Galbraith and Galbraith, Serrell." A short history of the Hoosac tunnel written by Haupt probably in the late 1860's, Haupt Papers, Box 19, p. 3. Hereinafter cited as Haupt, "Short History of Hoosac."

⁴¹"I believed that I had brains enough and resources enough to carry the work through. I had never failed in anything, and I was determined not to fail in this." Statement of Herman Haupt Presented to the Joint Special Committee on Troy and Greenfield Railroad and Hoosac Tunnel (Boston: n.p., 1864), p. 11. Hereinafter cited as Statement of Haupt to Special Committee, 1864.

tunnel in the United States.⁴² Possibly, although he made a good living from his Pennsylvania mining and timber companies, their challenge paled beside that of the Hoosac. Haupt was always intrigued with the prospect of overcoming engineering obstacles and the technical challenge of new projects, and the Hoosac had obstacles enough for several men. Haupt had become interested in the invention of steam driven drills to be used in tunneling while he was superintending the Allegheny tunnel on the Pennsylvania Railroad. He had little time to devote to their construction, but he had the outline of a drill in the back of his mind and the Hoosac would give him the chance to experiment with it.⁴³ Lastly, the Hoosac looked like a profitable investment. The profits promised to be large and long range, and could be made larger with the introduction of a successful steam

⁴²The Hoosac remained the longest tunnel in the United States until the Moffat Tunnel was driven through the Rockies west of Denver on the Denver and Rio Grande Western Railroad during the 1920's. Joseph Giles, Adventure Underground: The Story of the World's Great Tunnels (New York: Doubleday and Co., 1962), p. 110.

⁴³Chapman considers Haupt's interest in the development of a workable steam drill to be the main reason for Haupt's entering the Hoosac contract. Chapman, "Haupt," IV, p. 8; Haupt probably had the rough outlines of the concept of drilling holes for placement of blasting charges rather than a machine to chew a huge hole through the mountain, but he did not seriously investigate the practicality of steam drills until he foresaw that they would be necessary to finish the tunnel within four or five years. When Haupt made his initial calculations he estimated five years on the basis of hand drilling.

drill into the headings.⁴⁴ Assuming the requirements could be met for the first installment of the state loan, the Hoosac promised an enhanced reputation and financial standing for Haupt.

A new contracting company was organized January 7, 1856, under the name of Serrell, Haupt & Company. The terms of the contract stipulated that Serrell, Haupt, Lane, Galbraith, and Brown each put \$20,000 into the company to raise the \$100,000 thought to be more than necessary to meet the requirements for the first installment.⁴⁵ Haupt did not expect to devote much time to company affairs and agreed to act only as a consulting engineer which required him to visit the tunnel three or four times per year.⁴⁶ All the partners assumed equal obligations and the contract stipulated that all debts incurred by the former Serrell & Company were to be paid as soon as conveniently possible, and any stocks or bonds earned in the future were to become the property of the new concern. The money already advanced by Serrell and Galbraith to pay corporate debts was to be repaid only after the first installment was earned.⁴⁷

⁴⁴If the tunnel had been successful ". . . the profits of the contract would have been at least a million and a half of dollars. . . ." Haupt, "Short History of Hoosac," p. 7.

⁴⁵Chapman, "Haupt," IV, p. 8.

⁴⁶Haupt, Closing Argument of Haupt on behalf of the Troy & Greenfield Railroad Co., p. 5.

⁴⁷Chapman, "Haupt," IV, p. 8.

The new firm of Serrell, Haupt & Company concluded a new contract with D. N. Stanton & Company, the subcontractor, giving Stanton credit for all work done previously for Serrell & Company plus \$2,000 for damages and claims and the privilege of assigning the contract. Haupt refused to sign this contract, not wishing to be responsible for all the debts of the old firm.⁴⁸

Almost before the ink was dry on the incorporation papers, the partnership began to dissolve. Haupt discovered that Serrell & Company was far from solvent and in fact owed twenty-eight firms over \$50,000 and had a total debt in excess of \$100,000.⁴⁹ Haupt did not wish to become entangled in the debts of Serrell & Company for this amount and demanded that a new contract be drawn up. On January 24, 1856, a new agreement was negotiated which freed Haupt and Lane from any previous debts of Serrell and Galbraith. Haupt agreed to accept only the responsibility for the payment of the boring machine in return for the patent rights on it. Although legally Haupt was no longer responsible for the prior debts of Serrell & Company, he soon found that he had to assume them to maintain the credit of

⁴⁸Stanton was subcontractor for the portion of the Troy & Greenfield Railroad between North Adams and Williamstown and not the tunnel. Contract between Edward Serrell and D. N. Stanton & Company, January 19, 1856, Haupt Papers, Box 1.

⁴⁹Serrell's debts exceeded Haupt's total working capital. Chapman, "Haupt," VI, p. 1.

Serrell, Haupt & Company.⁵⁰

Haupt's financial woes had just begun. He put up stocks with a par value of \$321,160 to George Howell, Horatio N. Burroughs, and Christian Spangler as security for a \$100,000 loan on January 9, 1856.⁵¹ Within a month Haupt paid out to Serrell \$13,500 and to Galbraith \$6,970 to meet the obligations of the old firm.⁵² Immediately after the negotiation of the new contract on January 24, Haupt discovered that not a single one of his partners was able to raise the \$20,000 needed for capital. Lane withdrew from the firm on February 21, in return for the promise of \$25,000 worth of the company's securities after the contract was completed and was relieved of any personal obligation or responsibility. Neither Galbraith, Serrell, nor Brown contributed a dime of capital to the new company.⁵³

⁵⁰Ibid., IV, p. 12. Haupt continually attempted to disassociate himself from the debts of his partners and from their past contractual obligations. Although it was possible for him to do it legally, as long as he was associated with them in the articles of partnership he was involved whether he wanted to be or not.

⁵¹Note of Haupt for \$100,000 to Christian Spangler, January 9, 1856, Haupt Papers, Box 1.

⁵²Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18. Haupt kept a record of all his disbursements but usually scribbled them on scraps of paper and stuck them in his coat pocket. Periodically he would collect them and tally his expenses but in no particular order. By the time he was ready to balance his ledger he had forgotten many dates and in some cases even what he spent the money for. His personal account books are therefore in some disarray.

⁵³Lane never invested any money in the concern. Haupt, "Short History of Hoosac," p. 3.

Galbraith handled the disbursements for the firm but possessing no financial resources of his own, he constantly dunned Haupt for the necessary money needed to satisfy the creditors.⁵⁴ Haupt usually complied, paying the debts out of his pocket.⁵⁵

As the contractors sought some satisfactory contractual arrangement among themselves, they also entered into a new contract with the Troy & Greenfield Railroad. Under the new terms the contractors were to receive the same \$3,570,000 for the completion of the tunnel and railroad but the payments were slightly rearranged. The tunnel could be single tracked, in which case \$12 would be subtracted for each linear foot after the first 3,000. The money value of work completed by the contractors would be paid for by the railroad in stock at par value. Only about ten percent of the contract was to be paid by the railroad in cash. Under this contract Serrell, Haupt & Company was required to construct and open the portion of the railroad between Greenfield and Shelburne Falls, east of the tunnel, within three years from the date of the contract, and to

⁵⁴Between January 1 and December 31, 1856, Haupt sent Galbraith \$53,760.71 at Galbraith's request. Disbursements of Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18.

⁵⁵Haupt was beginning to become suspicious about his new partners. After receiving a letter from Galbraith he wrote, "there is a screw loose about him somewhere." Haupt to Cartwright, later partner in the firm, February 9, 1856, Haupt Papers, Box 1.

the tunnel within three additional years.⁵⁶ This contract did little to relieve the financial burdens on the contractors for they still had to market the railroad's stocks and bonds to furnish funds for payment of the work. The market for the bonds remained poor until the project had proven its feasibility. The only mitigating clause was that if subscriptions to the stock of the Troy & Greenfield exceeded \$360,000, the contractors would be paid the surplus in cash.⁵⁷

To increase the complexity of the contractual situation, the subcontractor, D. N. Stanton, took advantage of his privilege of assigning his contract and sold it to the contracting firm of Ballou and Simmons. Haupt had not signed the contract with Stanton and declined to recognize the reassignment of the contract and considered it to be

⁵⁶The close relationship between the Troy & Greenfield and the contractors is evident in the fact that each time new partners were brought into or expelled from the contracting firm a new contract was immediately negotiated with the railroad. In each successive contract the railroad became increasingly dependent upon the contractors. Ibid., pp. 10-12.

⁵⁷The subscription clause was unlikely to help the contractors for the Troy & Greenfield had collected only \$143,905.77 on paid in subscriptions by the end of 1856. The railroad had expended \$176,608.78 during the same period. "Seventh Annual Report of the Troy and Greenfield Railroad Company, January, 1857," Annual Reports of the Railroad Corporations in the State of Massachusetts for 1856. To Which is Added an Abstract of Said Returns, prepared by the Secretary of the Commonwealth (Boston: William White, Printer to the State, 1856), pp. 275-277, hereinafter cited as "Seventh Annual Report of Troy & Greenfield Railroad."

part of the obligations of Serrell and Galbraith.⁵⁸

Despite the new contract with the Troy & Greenfield and a new subcontractor, work did not immediately begin on the railroad and tunnel. Haupt spent the spring and early summer of 1856 trying to settle the tangled financial affairs of his partners.⁵⁹ Between January 8 and June 25, 1856, when Serrell was eased out of the firm, Haupt spent \$44,790 of his own money, of which only about ten percent went towards new construction. The bulk of his expenses, \$25,870, was sent to Galbraith in an attempt to prevent suits to force the payment of Serrell & Company's old debts.⁶⁰ Galbraith had the unenviable job of keeping the creditors at bay while Haupt tried to raise enough cash to get the work under way. Although Galbraith managed to extend most of the debts and partially pay a few, Haupt's cash reserve was constantly drained and as fast as he raised money it was applied to old obligations. The addition of Haupt to the partnership was fortunate for Serrell

⁵⁸The subcontract was sold March 18, 1856. Chapman, "Haupt," IV, p. 12.

⁵⁹On February 21, 1856, Haupt managed to persuade his Pennsylvania business associates, Tom Scott, J. Edgar Thomson, Horatio Burroughs and Andrew M. Eastwick to loan \$60,000 to the firm of Serrell, Haupt & Company in return for eleven percent of the contract. Haupt was eventually able to repay the loan with interest but these men never received any other profit from their investment. Haupt, "Pennsylvania Railroad," p. 19; Chapman, "Haupt," IV, p. 9.

⁶⁰Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18.

and Galbraith, not only because Haupt was the only partner with resources and credit, but also because his presence in the firm reassured creditors who suddenly became ". . . anxious to give us an opportunity of paying them by allowing us time. In that way all goes on smoothly."⁶¹

Haupt attempted to raise needed cash by having a bill introduced in the Massachusetts legislature that authorized the city of Boston to subscribe to the work. Haupt went to Boston April 10, where he spent \$1,000 on "legislative expenses" in an attempt to secure passage of the bill.⁶² He hoped that if legislative permission was granted, Boston would subscribe as Philadelphia had for the Pennsylvania Railroad. The bill specified that Boston would be granted four out of nine seats on the board of directors of the Troy & Greenfield in return for a large subscription.⁶³ The vote was taken May 15, 1856, and the bill failed. However, Galbraith was not discouraged and

⁶¹Galbraith to Haupt, March 29, 1856, Haupt Papers, Box 1.

⁶²The legislature passed a bill before Haupt became associated with the contract which allowed other towns along the projected line of the Troy & Greenfield to subscribe to the stock of the road but none took advantage of the permission. A lawyer for the Troy & Greenfield, E. H. Derby, prepared the groundwork for the appeal to the legislature and made the arrangements for Haupt to meet with pro-tunnel members of the body in April. *Ibid.*; Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18.

⁶³Galbraith to Haupt, May 17, 1856, Haupt Papers, Box 1.

wrote Haupt that ". . . the discussions upon it has [sic] caught the public attention and made many warm and active friends-- . . . I have taken considerable pains to see the leading men here on the subject of the town and individual subscriptions in this question and have the strongest assurances from them that the whole amount from \$35,000 to \$40,000 will be paid in during the progress of the seven miles here."⁶⁴ The problem was that no progress was being made.

In early May, Galbraith sent Haupt a list of the obligations of Serrell & Company maturing prior to October 15, 1856, totaling \$30,171.22.⁶⁵ Haupt was rapidly becoming irritated at the constant drain of his resources to pay old bills of partners who four short months earlier had represented their solvency to him. Galbraith replied with the first admission that he knew of the financial troubles before contacting Lane in December. He wrote Haupt: ". . . I had comparatively nothing to do with the business management of the concern and knew but little of it. . . . in December I found our affairs very much behind and out of order and insisted on bringing in new parties to

⁶⁴The city of Boston was lukewarm toward the subscription proposal. To improve relations with that city Galbraith wrote that "the friends of the road are not in the least discouraged and will now at once go to work vigorously among the people of Boston. . . ." Galbraith was always the optimist of the concern. Ibid.

⁶⁵Chapman, "Haupt," IV, p. 13.

aid in carrying on the work as it was obvious we could not do it alone. Since the new concern was organized I have learned many things of which I was wholly ignorant or I never would have consented that the present firm should have been adopted."⁶⁶ Galbraith, attempting to shift the blame to Serrell, continued: "in plain terms, . . . Mr. Serrell's want of punctuality in meeting engagements has irretrievably damaged his personal standing as a business man and that a firm with his name connected with it cannot have the credit which our firm ought to have."⁶⁷ If Galbraith had relayed this information to Haupt in January, Haupt would not have entered the contract.⁶⁸

⁶⁶Galbraith, New York, to Haupt, May 27, 1856, Haupt Papers, Box 1.

⁶⁷Even though Galbraith was admitting that he knew of Serrell's financial insolvency when he lured Lane and Haupt into the firm, Galbraith asked Haupt in the same letter for \$3,762 to meet bills. Ibid.

⁶⁸Haupt's reaction to the news that Galbraith had knowingly brought him into the contract under false pretenses was only mild anger. Haupt had an even temper and a total inability to hold a lasting grudge despite the fact that he invoked the opposite reaction in others. He later wrote that "there has never been any disposition to charge Galbraith with intentional misrepresentation. He was himself deceived as he was a lawyer and not an engineer or bookkeeper. Had the facts been presented as they were afterwards found to exist neither Lane nor Haupt could have been induced to touch the contract." Haupt, "Short History of Hoosac," p. 3; Haupt's bias against lawyers is evident here for as a lawyer Galbraith should have been better informed than as an engineer. Haupt felt that bringing anyone before a court was somehow unchristian and one of his failings during the entire Hoosac ordeal was his reluctance to hire counsel to protect his interests. Haupt thought that if the truth was made known point by point as in an

Haupt took Galbraith's hint and determined to oust Serrell from the firm. He took the first step on June 25, when he signed an agreement with Serrell and Galbraith which dropped Serrell's name from the firm, although he remained in it, and reaffirmed that Haupt was not personally liable for the debts of Serrell & Company.⁶⁹ The old debts were to be paid by H. Haupt & Company from the profits of the Hoosac and from the Troy & Greenfield bonds earned by Serrell which now became the property of the new company. William H. Brown, who had contributed absolutely nothing to the concern and was then in Paris, was summarily dropped entirely, and his interest was merged as the common property of the company.⁷⁰

The next day Haupt wrote D. N. Carpenter, president of the Troy & Greenfield, that a force of miners from Pennsylvania was being sent to start work on the tunnel. Haupt also poured out his doubts about his partners and the general state of affairs. "I have advanced nearly \$50,000 to this

engineering problem, there would be no need for lawyers. His enemies felt differently and Haupt was often hounded by lawsuits. Haupt wrote in 1864: "I thank the Lord that I have never brought suit against anyone, never let loose the bloodhounds of the law against any human being." Haupt to Dysart, March 30, 1864, Haupt Papers, Box 4.

⁶⁹Chapman, "Haupt," IV, pp. 14-15.

⁷⁰Brown went to Paris in March and left instructions with Galbraith that he would accept whatever Galbraith and Haupt thought his interest in the company was worth. Galbraith to Haupt, March 29, 1856, Haupt Papers, Box 1.

time all of which except some \$4,000 or \$5,000 has gone to pay the debts of E. W. Serrell & Co. I must raise at least 3 times the amount represented to be sufficient to raise the state loan."⁷¹ For the first time Haupt indicated that he had reservations about continuing his connection with the contract. "My position is just this, I must either lose the \$50,000 and stop, or I must go further, carry the whole loan, rely on myself and push ahead. I have after carefully balancing the whole matter decided to take the latter alternative. . . ."⁷² He also indicated that he was searching for new partners to help shoulder some of the financial burdens, concluding, "I have at last got my eyes open."⁷³

Haupt took the next step to straighten out the debts of the firm on July 11, by negotiating a memorandum of agreement with Galbraith. Under its terms, any profits from the contract were to be apportioned two-thirds to Haupt and one-third to Galbraith after payment of all obligations.⁷⁴

⁷¹Haupt, Philadelphia, to D. N. Carpenter, June 26, 1856, Troy & Greenfield Papers.

⁷²Ibid.

⁷³" . . . But the firm shall first be dissolved and I will then if I cannot conceivably carry it alone associate with me one or two of the right stamp. I must go into the harness and with the blessings of Providence I will carry it through." Ibid.

⁷⁴Presumably the eleven percent of the contract held by Haupt's Pennsylvania associates was to be deducted from Haupt's two-thirds.

All debts of Serrell & Company were to be extended as long as possible and those that must be paid were to be financed by money raised from bonds of the Troy & Greenfield used as collateral. The debts were not to be a personal charge against Haupt. The advances made by Galbraith to the old company, totaling \$4,149.99 were to be repaid at interest from April 16, 1855, from profits. Galbraith was allowed a salary of \$3,000 for work performed for Serrell & Company through January 7, 1856, and the two men agreed to work together to remove Serrell entirely from the concern. It was a very favorable agreement for Galbraith, who contributed nothing to any of the firms after April of 1855.⁷⁵

Serrell was finally eased out of H. Haupt & Company on July 28, 1856.⁷⁶ He agreed to surrender his 5,987 shares of Troy & Greenfield stock in exchange for \$8,000 to be paid one-half when the first installment of the state loan was reached and the remainder at the second installment. Serrell was to also receive annually for six years, \$5,000 in bonds and \$2,500 in stock of the railroad as long as work

⁷⁵Contract between Galbraith and Haupt, July 11, 1856, Haupt Papers, Box 1.

⁷⁶The agreement was evidently reached several days earlier. Serrell wrote to the board of directors of the Troy & Greenfield two days earlier and informed them of the relinquishment of his interest in the contracting firm and authorized Haupt and Galbraith to make whatever new contract with the railroad they wished. Serrell to the Board of Directors of the Troy & Greenfield Railroad Company, July 26, 1856, Troy & Greenfield Papers.

continued, as well as \$125 per month for one year as a "consulting engineer." His remaining debts and contracts were assumed by H. Haupt & Company.⁷⁷ So ended Haupt's first partnership. He was now free to look for new partners to help finance the work.

Each time the contractors changed their corporate structure, the emerging company immediately drew up a new contract with the Troy & Greenfield. Consequently, on July 30, 1856, H. Haupt & Company negotiated another contract, which lasted eighteen months. The contract was very similar to that of January except the total value of the contract was \$3,883,000, to be paid with \$2,000,000 in state script for the tunnel, \$900,000 in six percent mortgage bonds of the company, \$598,000 in capital stock and \$382,000 in cash.⁷⁸ The Troy & Greenfield was still trying to build a railroad without cash.

The relationship between the contractors and the railroad company became increasingly dominated by the contractors because the Troy & Greenfield lacked financial

⁷⁷Chapman, "Haupt," IV, pp. 16-17.

⁷⁸Contract between H. Haupt & Company and Troy & Greenfield Railroad Company, July 30, 1856, Troy & Greenfield Papers. The contract was signed by Haupt, Dungan, Galbraith, and Cartwright, later partners with Haupt who must have signed the contract after coming into the firm of H. Haupt & Company. Alvah Crocker and D. N. Carpenter signed for the railroad. The payments stipulated in the contract do not tally with the total contract price. There is a \$3,000 discrepancy.

resources and was almost completely at their mercy.⁷⁹

Haupt wrote to D. N. Carpenter in June that "to succeed I must have all unnecessary expenses stopped. I will with an assistant arrange all the plans and do all the engineering-- I propose to conduct the operations of the line in such a way to conform to the requirements of the loan act and build you a road . . . with well finished and substantial work, but I must make my own plans and manage in my own way simply pledging my word for the results that they will be satisfactory."⁸⁰ Hampered by lack of capital, Haupt proposed to reduce the size of the tunnel in order that he might meet the requirements for the first installment of the state loan more quickly. He wrote Carpenter, "the loan act does not require the tunnel to be double track. I would make it 14 ft. wide instead of 22. You do not require a greater width until a double track is laid on the whole . . . and a narrow tunnel is much safer in the roof than a wide one." Haupt calculated that the widening of the tunnel at a later date could be accomplished for \$250,000 or less. He asked Carpenter to persuade the board of directors to

⁷⁹The railroad had nothing to pledge for security except a mortgage on construction yet to be done. The mortgage was weak security because the state loan was predicated on a first mortgage so the line could only offer a second mortgage on work considered by many to be impossible to fulfill. Haupt, on the other hand, had tangible securities to offer in return for cash loans.

⁸⁰Haupt to Carpenter, June 26, 1856, Troy & Greenfield Papers.

accept the single track tunnel, if they wanted a tunnel at all.⁸¹ Carpenter obtained the consent of the board, and the July contract stipulated that the tunnel could be single or double-tracked at the discretion of the contractor with the same forfeiture of twelve dollars per linear foot specified in the January terms.⁸²

Haupt now turned in earnest to find new partners with capital resources to invest in the work. The Philadelphia contracting firm of Charles B. Dungan, Henry D. Steever and Henry Cartwright contacted Haupt and after a personal examination of the work by Cartwright, offered to invest in H. Haupt & Company.⁸³ Haupt and Galbraith negotiated a contract August 9, 1856, giving the Philadelphia company a twenty-nine percent interest in the contract with the Troy & Greenfield. In return, Dungan, Steever and Cartwright agreed to invest \$87,000 in H. Haupt & Company at the rate of \$10,000 per month, starting November 1, 1856.⁸⁴ To help

⁸¹Ibid.; Haupt sent the same proposition to the board of directors of the railroad a month later. Haupt to the President and Directors of the Troy & Greenfield Railroad, July 28, 1856, Troy & Greenfield Papers.

⁸²Contract between H. Haupt & Company and Troy & Greenfield Railroad Company, July 30, 1856, Troy & Greenfield Papers.

⁸³Henry Steever had been in business with Haupt's father between 1825 and 1827.

⁸⁴It was assumed by Haupt that \$87,000 would be sufficient to reach the state loan. Haupt, "Short History of Hoosac," p. 3.

the new partners raise the money Haupt loaned them \$125,000 of the Troy & Greenfield bonds. No liability for old debts was to be assumed by the new partners.⁸⁵

The firm of H. Haupt & Company now divided the work among the partners. Haupt was responsible for the general supervision, location of the railroad, preparation of all bridge plans, and superintendence of the practical operations. He was also the treasurer, handling all funds, and signing all notes. Galbraith remained in charge of the disbursements.⁸⁶ All questions relating to mechanical details were handled by a committee of Haupt and Cartwright, all questions on finances by a committee of Dungan and Steever, all questions on disbursements by Galbraith and Cartwright. Haupt was also a member of each of these committees since his investment was larger than that of any other partner.⁸⁷ Theoretically the organization looked feasible, but in reality it did not work. Haupt and Cartwright slowly evolved as the moving forces in the company, and the other partners slowly relinquished what little effort they initially expended.

H. Haupt & Company faced the same problem of subcontractors originally faced by Serrell. Ballou and Simmons,

⁸⁵Chapman, "Haupt," VII, p. 1.

⁸⁶Haupt, much to his later regret, kept the books of the firm. Ibid.

⁸⁷Ibid., IV, p. 19.

the contractors who had purchased the subcontract from D. N. Stanton, were owed about \$16,000 from their contract with Serrell and Galbraith and threatened to sue H. Haupt & Company for their money.⁸⁸ Haupt had refused to be a party to this contract and did not feel any obligation to pay the debt, but on the protestations of Galbraith, who was afraid of a suit, he paid at least \$7,818 for the work performed by them.⁸⁹ Haupt wrote Ballou and Simmons on October 1, explaining that he did not acknowledge any legal claim on him to reimburse them but, ". . . as there was an understanding on your part which was justified by the acts of any expressions of Messrs. Serrell & Galbraith, that the transfer of the Stanton Contract would be acceptable to us, I feel inclined to go as far as possible in affecting a satisfactory settlement of your claim."⁹⁰ Haupt proposed to pay them with 1,500 shares of Allegheny Rail Road and Coal Company Stock, which had a market value of \$15,000, plus \$15,000 worth of notes on the North Western Coal Company.⁹¹ To guarantee the value of the stock, Haupt

⁸⁸Galbraith paid Ballou and Simmons a portion of their expenses but pressure from Haupt to economize ended payments and brought the threat of a suit. Ibid., VI, p. 1.

⁸⁹Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18.

⁹⁰Haupt to Ballou and Simmons, October 1, 1856, Haupt Papers, Box 1.

⁹¹These were securities Haupt had put up as collateral January 9, 1856. On October 1, 1856, Spangler and his associates returned to Haupt forty percent of his

offered to repurchase it after three years at \$12 per share. He gave them fifteen days to consider the offer, asking them to cease work, ". . . release all claims against Serrell & Galbraith . . .," and Haupt would finish the construction as he saw fit.⁹² Ballou and Simmons stalled in the hope of procuring better terms. Finally, in January 1857 Haupt wrote Ballou that ". . . I no longer feel myself bound by an agreement which you obtained from me not to settle with your partners in your absence for any claim which you or they profess to have against E. W. Serrell & Co. or H. Haupt & Co. I now feel myself free to act as I think proper. I consider you are overpaid. . . ."⁹³ Haupt settled with them on January 30 on less generous terms than he had offered the previous October. He paid them \$13,000 in Allegheny stock and gave a personal note for \$1,000.⁹⁴ He was at least rid of them temporarily.

The firm of H. Haupt & Company now assumed the superintendence of the work without the services of a

collateral and reduced their loan to \$60,000. Contract between Haupt and Spangler, October 1, 1856, Haupt Papers, Box 1.

⁹²Haupt to Ballou and Simmons, October 1, 1856, Haupt Papers, Box 1.

⁹³Haupt, Philadelphia, to Ballou, January 16, 1857, Haupt Papers, Box 1.

⁹⁴Haupt to Cartwright, January 20, 1857, Haupt Papers, Box 1; Contract between Haupt and Ballou and Simmons, January 30, 1857, Haupt Papers, Box 1.

subcontractor. Haupt refused to take charge of the actual daily management of the work because of his neglected business interests in Pennsylvania.⁹⁵ Henry Cartwright, an accountant, agreed to take the job for a salary of \$7,500 per year. Galbraith received \$5,000, Dungan got nothing, since he did no actual work, Steever was paid for the actual time he worked, and Haupt was to receive \$4,500.⁹⁶ In practice, salaries were paid when money was available, and allowed to slip when the financial situation was tight.⁹⁷ Workmen were collected for the digging at the tunnel and shanties were erected for their families. The company opened a store at the construction site to provide for the daily needs of the workmen.⁹⁸ By October the work on the

⁹⁵Haupt was still living in Pennsylvania. On September 1, 1856, he purchased forty acres with a large two-story white frame house and outbuildings at Chestnut Hill which was then rolling countryside north of Philadelphia. The property had several small ponds and he constructed a gazebo in the middle of one right behind the house. Of all the homes owned or leased by Haupt, his wife enjoyed this one the most. To get to Philadelphia, Haupt walked to Germantown and took a train the remaining distance into the city.

⁹⁶Chapman, "Haupt," VII, pp. 5-6.

⁹⁷Haupt never received a salary while connected with the Hoosac. His family lived exclusively on the dividends of telegraph stock he gave his wife which she refused to allow him to hypothecate. Haupt to Thomson, May 3, 1864, Haupt Papers, Box 4.

⁹⁸The company store always proved a small headache for Haupt. Galbraith wrote that ". . . the stock for the store should be enlarged and was not very well selected, the clothes are too small, for the men working the tunnel wear the largest sizes. . . . they also like less

tunnel was progressing at the rate of about eleven feet per week, with all the drilling being done by hand.⁹⁹

Haupt found himself spending more and more time in Massachusetts. He went to Greenfield in August and located the route of the railroad between Greenfield and the mountain. The former location was improved almost eighty percent by Haupt at a savings of at least \$500,000.¹⁰⁰ His new route still met all the provisions of the contract with the Troy & Greenfield on curvature and grade.¹⁰¹

Early in October, Governor Gardner, who was hostile to the tunnel project, visited the work along with his council and about fifty guests. Gardner received a chilly reception from the natives of the region because of his opposition, and he stayed only long enough to watch a blasting of the rock and retired to his hotel. He remained

fashionably cut garments--the style of last year will suit them much better and can be bought much cheaper." Galbraith to Haupt, October 29, 1856, Haupt Papers, Box 1.

⁹⁹Ibid.

¹⁰⁰There is doubt as to the exact savings gained by the relocation. Chapman, "Haupt," IV, p. 20, states \$500,000 and approximately 1,683,839 cubic feet of excavation. Haupt, "Short History of Hoosac," p. 6, states that his relocation saved ". . . more than a million of dollars . . ." and made construction feasible. The matter became important when Haupt was accused of purposely making a poor location to increase his own profits.

¹⁰¹The limitations of grade and curvature were not to exceed those on any other line forming the through route from Boston to Albany. Chapman, "Haupt," IV, p. 20.

unswayed by what he saw.¹⁰²

The end of Haupt's first year with the tunnel contract found him depressed. His personal investment by December 31, 1856, stood at \$107,844.50 and the prospects of any profits still lay in the distant future.¹⁰³ Much of this money went to pay the outstanding debts of his partners and to avoid suits by their creditors. Instead of spending his time grappling with technical problems related to the work, Haupt constantly devoted his attention to settling the financial affairs of others.¹⁰⁴ He rapidly became entangled in a morass of debts and obligations that siphoned off his working capital.¹⁰⁵ He had become aware

¹⁰²Galbraith to Haupt, September 29, 1856, Haupt Papers, Box 1; Galbraith, ever the optimist, felt that the governor ". . . was much impressed by the masses of rock that were blown out-- . . ." Nevertheless, he remained an active opponent of the tunnel. Galbraith, North Adams, to Haupt, October 3, 1856, Haupt Papers, Box 1.

¹⁰³Calculated from Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18.

¹⁰⁴Despite Haupt's intense technical curiosity, there is no mention by him in 1856 of any attempt to solve the complicated problems attendant with digging the tunnel.

¹⁰⁵Alvin F. Harlow, Steelways of New England (New York: Creative Age Press, 1946), p. 244, wonders how Haupt could have ". . . walked into major trouble with his eyes open. How he could induce Pennsylvania Railroad associates to invest in such an enterprise is a mystery." Haupt did not walk into the contract with his eyes open; they were tightly closed. By his own admission he did not wake up until at least the end of July. In the meantime he had invested heavily of his own money and he felt it was too late to back out. He failed to investigate the credit of his partners thoroughly, and his Pennsylvania Railroad

of the sectional feeling within the state of Massachusetts when his suggestion for a Boston subscription met with lukewarm interest in that city. Furthermore, even the towns that would directly benefit by the tunnel and railroad were either disinterested or unable to invest in the stock. The Troy & Greenfield was rapidly becoming a sham, for during 1856 the company had raised only \$22,493, or about twenty percent of what Haupt had personally raised and expended.¹⁰⁶ Although there was a brighter side by the end of the year, Haupt still had doubts about the eventual success of the project. He had ousted the unproductive partners of the original contracting firm and acquired what he hoped would be substantial support. The work was progressing again, although slowly, and was directly under his charge. He was laying plans for a possible revision of the 1854 state loan act that would more directly benefit the railroad and contractors. But with his large personal investment, Haupt had no choice of abandoning the work as he had in late

associates invested on Haupt's word. Haupt was literally pulled in a little at a time until he was swallowed up by the whole affair.

¹⁰⁶"Seventh Annual Report of Troy & Greenfield Railroad," p. 275.

June. The only possibility afforded Haupt to recoup his expenses was to see the work through.¹⁰⁷

¹⁰⁷If the political winds had shifted sooner Haupt would have been in a much better position. A future governor of Massachusetts, Nathaniel P. Banks, had taken the trouble to inquire about Haupt in Pennsylvania and found Haupt ". . . to be in every respect a competent man for his part of the work and entitled to the confidence of our people. They predict his success in all he undertakes to do and I hope the state will not in any way . . . obstruct or delay the completion of a work which is so well calculated to advance her prosperity." Banks did not come into office until January 1858. N. P. Banks, Washington, D.C., to Wendell Davis, Greenfield, treasurer of the Troy & Greenfield Railroad, December 4, 1856, Haupt Papers, Box 1.

CHAPTER VII

TENACITY TRIUMPHS

Haupt wrote Galbraith at the onset of 1857 that they needed an additional \$64,000 to carry the work through to the first installment.¹ It seemed that everything was collapsing at the same time. Haupt confessed to a friend: "as to the desponding view that I am disposed to take of affairs I will admit that. . . . I have recently had an almost crushing realization of the fact that in our company matters, not a thing is done unless I do it myself. My connection with the Hoosac has just about absorbed enough of my time and attention to bring every thing else to the verge of destruction."² His Pillston Coal Company had its notes protested twice because of poor management, Allegheny

¹Galbraith, characteristically optimistic, felt "you overestimate, I think, the difficulties in our way and underestimate the means we have for surmounting them." Galbraith, North Adams, to Haupt, January 5, 1857, Haupt Papers, Box 1.

²Haupt was also having trouble working harmoniously with the management of the Troy & Greenfield. ". . . The very bluest feature of the business is the intense, disgusting selfishness everywhere sticking out from Davis [treasurer of the Troy & Greenfield] who is at the head of the heap. . . . A soul with half a grain of liberality would be a curiosity." Haupt, Philadelphia, to Cartwright and Galbraith, January 16, 1857, Haupt Papers, Box 1.

Railroad and Coal Company was under investigation by a committee of stockholders and its land titles were suspect, and Clearfield Coal Company was badly in need of reorganization.³ Haupt concluded that ". . . if you ever catch me agin with so many irons in the fire at the same time you may administer a good coat of tar and feathers."⁴

In an attempt to alleviate some of his financial burdens, Haupt sought an amendment to the loan act of 1854. The original act specified that the second installment would be received only after three additional miles of railroad were completed past the requirements for the first installment. Haupt sought a change in the act whereby the money would be credited after the railroad spent thirty-five percent of the second installment, regardless of how many miles this money completed. If this amendment was not passed, the limited funds of the contractors would dictate that a three-mile stretch be constructed along the easiest portion of the route to qualify for the loan. This stretch would be relatively valueless for it would not necessarily connect with other portions of the road.⁵

³Ibid.; Report of the Committee to visit and inspect the Allegheny Railroad and Coal Company's property, November 2, 1858, Haupt Papers, Box 2.

⁴Haupt to Cartwright and Galbraith, January 16, 1857, Haupt Papers, Box 1.

⁵Haupt, Closing Argument of Haupt on behalf of the Troy & Greenfield Railroad Co., p. 6.

Opposition to the amendment was again led by the Western Railroad⁶ through Daniel L. Harris, mayor of Springfield, Massachusetts, and president of the Connecticut River Railroad which was closely allied with the Western.⁷ This was the first opposition by Harris, who closely followed Haupt's footsteps throughout the remainder of the Hoosac contract.⁸ Despite many amendments added by the legislature, the bill passed both houses and was sent to Governor Gardner for approval.⁹ The governor vetoed the bill in the last week of May and delivered a stinging condemnation of both the tunnel project and the Troy &

⁶The Western Railroad had opposed an amendment early in 1856 when the Troy & Greenfield petitioned the legislature to subscribe to the stock of the railroad. The legislature refused. Statement of Haupt to Special Committee, 1864, p. 19.

⁷Harris was also ". . . a member of a bridge firm committed to the excellencies of the Howe patent, perhaps menaced by Haupt's innovations." Kirkland, Men, Cities, and Transportation, I, 405.

⁸Haupt was approached at the beginning of the legislative session by anti-tunnel parties and asked if he would support a bill that would repay his advances and allow him to cease work. Haupt refused and the opposition became open. Statement of Haupt to Special Committee, 1864, p. 19.

⁹The bill in its final form would have been a great help to Haupt. It agreed that the main object of state aid was to insure the completion of the tunnel and stipulated that the railroad should get \$65,000 for each 1,000 linear feet excavated. Haupt, Closing Argument of Haupt on behalf of the Troy & Greenfield Railroad Co., p. 6.

Greenfield Railroad Company.¹⁰ He cited the total inability of that corporation to raise cash subscriptions and the lack of support for the project in the towns along its projected route. He ridiculed the boring machine being constructed by the Novelty Works and predicted it would take eighteen years to complete the tunnel. He further predicted that it would eventually be taken over by the state and completed at immense expense. Since ". . . no present legal voters of our Commonwealth will live to see the Tunnel completed, . . ." he wished to go on record with the veto.¹¹ The bill was sent back to the House where it was passed over the governor's veto, but the Senate failed to repass the bill by a single vote. Haupt's legislative efforts for 1857 were ended.¹²

¹⁰Gardner was coming up for reelection in 1857 and wanted to make retrenchment in state government an issue. Although the amendment did not change the total state investment in the tunnel, Gardner sought to demonstrate by the veto that he was economizing. Boston, Bee, n.d., Haupt scrapbook, pp. 140-141; "The veto message was circulated over the country as an electioneering document, and . . . how far this precise document contributed to the overwhelming majority of Governor Gardner's opponent . . ." it was impossible to tell. Banks defeated Gardner in 1857. Herman Haupt, "Troy and Greenfield Railroad; History and Present Condition of the Enterprise," n.d., probably late 1858, Troy & Greenfield Papers, p. 3.

¹¹Gardner's veto, partially cited in Chapman, "Haupt," X, p. 1; Haupt thought the veto was a political trick and not aimed against either him or the tunnel. Haupt, Closing Argument of Haupt on behalf of the Troy & Greenfield Railroad Co., p. 6.

¹²Statement of Haupt to Special Committee, 1864,
p. 19.

While the maneuvering in the legislature was taking place, the work continued on the tunnel and railroad. Galbraith negotiated a contract on November 14, 1856, with the Southern Vermont Railroad, chartered in 1848, to have H. Haupt & Company construct it for \$200,000, paid in the stocks and bonds of that company.¹³ Haupt was occupied in the spring of 1857 laying out the route and designing bridges for that portion of the line. He was also attempting to obtain a subcontractor willing to do the actual work and take the stocks and bonds in payment.¹⁴ Another immediate problem was to raise the necessary cash to pay for the iron on the road, as suppliers would not accept bonds and stock in payment, as would some contractors.¹⁵ Haupt remained in Boston during May while the legislature was in session until Harris left the city, after which he went to Pittsburgh to attend to some business connected with his Pennsylvania interests.

Haupt wrote to Cartwright from Philadelphia, May 25, summarizing the state of affairs. The tunnel ". . . work is exceedingly slow and I am exceedingly anxious to see you

¹³Chapman, "Haupt," XVII, p. 1.

¹⁴Haupt, Philadelphia, to Galbraith, February 11, 1857, Haupt Papers, Box 1; Haupt to Cartwright, March 9, 1857, Haupt Papers, Box 1.

¹⁵Iron manufacturers demanded eighty percent of the purchase price in cash. Haupt to Cartwright, March 9, 1857, Haupt Papers, Box 1.

and talk over our plans of operations."¹⁶ Even worse, the town of Adams, which subscribed to the stock of the railroad upon the condition that the contractors build the railroad west of the tunnel all at once, would not pay. Haupt wrote that "I have no idea however of ever running the road to Adams until the people pay up. Now is the time of our greatest need. I do not recollect exactly but I think my payments in cash & and [sic] bills unpaid amount to \$220,000, deduct \$87,000 from D.C. & Co. leave \$130,000 already on my back. . . . I cannot go much further."¹⁷ For the first time the friction between the ever optimistic Galbraith and Haupt flared into the open. Haupt wrote to his partner, that as Galbraith ". . . is [not] a very useful member of the concern I wish we could find some good party to buy him out."¹⁸

Galbraith was not reluctant to terminate his connection with the firm. He did not possess any capital, his entire estate was tied up in a first mortgage, and he was an endorser for \$60,000 of the debts of H. Haupt & Company.

¹⁶Haupt, Philadelphia, to Cartwright, May 25, 1857, Haupt Papers, Box 1.

¹⁷Ibid.; Adams had subscribed to 200 shares of stock in the Troy & Greenfield. Resolution of Town of Adams, n.d., Haupt Papers, Box 1.

¹⁸Haupt evidently omitted the word "not" in this sentence. Haupt to Cartwright, May 25, 1857, Haupt Papers, Box 1.

He wrote Haupt July 10, giving him permission to make any offer he wished as Galbraith knew that ". . . you would do for me as for yourself."¹⁹ Galbraith then resigned from the board of directors of the Troy & Greenfield and recommended that Haupt take his place.²⁰ This friendly attitude was short-lived, for when Haupt offered Galbraith six percent of the firm's profits Galbraith wrote, "is there anything in our articles of partnership or in justice and equity that requires me to make such a ruinous and unequal concession as this?"²¹ A compromise was effected and Galbraith became a special partner in the firm on August 4, with a promise of ten percent of the profits. Galbraith's credits were limited to \$15,300 in cash advances, and he was released from all debts contracted by Serrell & Company and H. Haupt & Company. Haupt assumed Serrell's assignment to Galbraith of Serrell's debts, and Galbraith was given \$20,000 worth of the Troy & Greenfield bonds and \$5,000 in Southern Vermont bonds. His \$5,000 salary was terminated, but he received salary for several months during which he

¹⁹Galbraith to Haupt, July 10, 1857, Haupt Papers, Box 1.

²⁰Galbraith to Board of Directors of the Troy & Greenfield Railroad Company, July 13, 1857, Troy & Greenfield Papers. Haupt was appointed to the board in Galbraith's place.

²¹Galbraith, Erie, Pennsylvania, to Haupt, July 21, 1857, Haupt Papers, Box 1.

performed no service.²² This remained a point of contention between the two men. Galbraith's interest in the company was not finally settled until 1884.²³

Haupt's troubles over the town subscriptions, tunnel work, and his partner, were minor compared to the financial havoc caused by Gardner's veto of the proposed amendment. The veto was widely published and the denunciatory language of the governor caused a reluctance on the part of potential investors to become connected with any project that was progressing against the will of the state administration, particularly when any anticipated profits must come from state cooperation. The veto was partially responsible for the financial failure of Dungan, Cartwright & Company, who, after paying their \$10,000 installments for only five months, became insolvent.²⁴ Haupt had given this company \$125,000 in stocks to hypothecate for their portion of the capital, but the company had difficulty raising money on this collateral after the veto and came to Haupt for his endorsement on their notes. Haupt complied, and he now found himself liable for their debts to the amount of

²²Galbraith had been the representative of H. Haupt & Company in Boston and in charge of lobbying efforts. He was paid for a period of time after the legislature had adjourned. Chapman, "Haupt," XVI, p. 2.

²³Galbraith, New York, to Haupt, September 19, 1884, Haupt Papers, Box 8.

²⁴Chapman, "Haupt," VII, p. 3.

\$34,414. The full impact of the failure of his latest partners did not become apparent to Haupt until July when he suddenly realized that if the ". . . parties holding the coupons should sue . . . could they not sell and absorb all our interest, causing us either to pay their claims or lose all we now have?"²⁵

The failure of Dungan, Cartwright & Company marked the second time in thirteen months that Haupt had placed his faith in partners who had misrepresented their financial position to him. When Haupt signed the contract with Dungan and Cartwright, that firm already had liabilities of over \$500,000 and were grasping at the anticipated profits of the Hoosac contract to relieve them of their debts.²⁶ Haupt had unwisely allowed himself to become entangled in their debts by endorsing their notes. Haupt compounded his problems by making an agreement with Dungan, Cartwright & Company on July 24, which gave that company credit for more money paid into H. Haupt & Company than they actually raised. The total capital agreed to be invested by the Philadelphia company was \$87,000. Since Haupt endorsed \$34,414.38, the actual capital paid in was only \$52,585.62. In an attempt to help restore the credit of his partners Haupt agreed to

²⁵Haupt, Greenfield, Massachusetts, to Cartwright, July 7, 1857, Haupt Papers, Box 1.

²⁶Account of Dungan, Cartwright & Co. to H. Haupt & Co., in Haupt, "Short History of Hoosac," appendix, Haupt Papers, Box 18.

allow Dungan, Cartwright & Company a credit of \$67,000 with his firm, or \$14,414.38 more than they actually raised.²⁷ The agreement did not help them as they failed to raise any additional capital. From this point Haupt personally raised every dollar that went into the Hoosac mountain.

The veto and the failure of his partners put Haupt in a very tight financial position and he struck out in several directions in an attempt to raise more money. He addressed a public meeting in Boston to raise a city subscription to the Troy & Greenfield stock, a plan Haupt consistently pursued but was never able to implement.²⁸ He never really understood how Boston could remain indifferent to the completion of such a vital transportation link.²⁹ Failing to raise money in Boston, Haupt tried to reinvigorate the Troy & Greenfield Railroad and raise money through

²⁷Ibid.; Between May, 1857, and September, 1858, Haupt paid \$11,153.13 in interest on Dungan, Cartwright & Company's notes. Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18.

²⁸Boston Daily Bee Extra, Remarks of H. Haupt, esq. . . . at public meeting held in the city of Boston, June 9, 1857. To consult upon ways and means of securing an uninterrupted prosecution of the work upon the Hoosac tunnel (Boston: Office of the Boston Daily Bee, 1857).

²⁹"The apathy of Boston . . . is really surprising." From speech by Haupt in North Adams, unidentified newspaper clipping, n.d., Haupt scrapbook, pp. 141-142; Haupt's correspondence is sprinkled with references to the failure of Boston to subscribe to the enterprise. Haupt continuously tried to stir up interest in the city for funds, but the opposition from the Western Railroad and anti-tunnelites managed to block any pledge of city securities.

it. To give the company an aura of imminent success, an agreement was negotiated July 1, 1857, between the Troy & Greenfield, Troy & Boston, Southern Vermont, Vermont & Massachusetts, and the Fitchburg Railroads, which apportioned a percentage to each of the connecting lines of a through fare upon completion of the Troy & Greenfield and the tunnel. Under this agreement the percentage depended upon the mileage of each line, allowing twenty extra miles for the tunnel when completed.³⁰ Haupt wanted to capitalize upon the expectations of the eventual completion of the project by enticing more stock subscriptions. Ten days later the board of directors of the Troy & Greenfield passed a resolution that all monies paid into the company should be turned over to the contractors for the prosecution of the work.³¹ In a spirit of neighborliness, the board of directors of the Vermont & Massachusetts recommended to the stockholders on July 17, a resolution that subscriptions on any Troy & Greenfield stock owned by them should be paid at the rate of ten percent for each 1,000 feet of tunnel completed, ". . . believing that a small amount of aid at this time will insure the present continuance of the work and at no very distant day the

³⁰Contract between Troy & Greenfield, Troy & Boston, Southern Vermont, Vermont & Massachusetts, and the Fitchburg Railroad, July 1, 1857, Haupt Papers, Box 1.

³¹Haupt, Boston, to G. Millan?, July 10, 1857, Haupt Papers, Box 1.

completion of the Hoosac Tunnel."³² The Troy & Greenfield stockholders remained unimpressed, for the railroad raised only \$42,509.50 during 1857.³³

Haupt had \$140,700.59 of his own money invested in the contract by the end of July, and now he realized that he could not expect any aid from outside sources to continue the work.³⁴ While the railroad continued to pay H. Haupt & Company for work in stocks and bonds, it was unable to furnish any cash, which forced Haupt to sell what bonds he could at discount.³⁵ The remainder of the money was raised by borrowing against his Pennsylvania securities and from friends in Pennsylvania and New York.

To make matters worse, signs of financial disaster were appearing by late summer. In July, textile mills started closing in New England for lack of a demand for their products, and by August credit had become tight at

³²Extract from Record of a meeting of the Directors of Vermont & Mass. R.R. Co. held July 17, 1857, Haupt Papers, Box 1.

³³By December 1857, the stockholders had paid into the Troy & Greenfield only \$186,414.50. Financial Report Troy & Greenfield Railway Co., December 1857, Troy & Greenfield Papers.

³⁴Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18.

³⁵Haupt accepted the bonds at par, \$100, but their sale price was well below that. In January, 1857, Haupt was willing to sell the bonds for \$85 and by March they were worth about \$80. Haupt to Cartwright and Galbraith, January 16, 1857, Haupt Papers, Box 1; Haupt to Galbraith, March 9, 1857, Haupt Papers, Box 1.

New York City banks.³⁶ Haupt, unaware of the approaching financial panic, started on another attempt in early August to raise additional money. He ". . . presented our matter to a large number of Phila. capitalists but without any encouragement whatever, everybody is afraid of Hoosac. . . . By hypothecating the only dividend paying stock I owned I raised enough to meet bills payable for August . . . I have tried Simon Cameron without success--I can see that people are getting afraid of me, it is plain that I am regarded as about broke. . . . I must try a new field and prepare to go to New York. . . ." ³⁷ Haupt went to New York where he wrote that "I find my credit is completely prostrated and I can do nothing."³⁸ He even wrote to Galbraith asking if he could raise \$2,000 using Haupt's farm at Warren, Pennsylvania, as collateral. Armed with letters from J. Edgar Thomson, Haupt prepared to go to Hartford to try to raise money, but expected that if unsuccessful ". . . we must go into liquidation, stop all work except merely to test the machine and pay off liabilities as soon as the money can be obtained."³⁹ Haupt returned to Philadelphia

³⁶Taylor, The Transportation Revolution, p. 349.

³⁷Haupt to Cartwright, August 5, 1857, Haupt Papers, Box 1.

³⁸Haupt, New York City, to Cartwright, August 11, 1857, Haupt Papers, Box 1.

³⁹Ibid.

with no more prospect of raising funds than he had when he left for New York.

However, Haupt continued to seek loans from the Philadelphia financial institutions and from business associates. He offered his stock as collateral for one-half the original purchase price and offered to pay two percent per month for loans. "I could not have believed such a state of things possible, with \$100,000 worth of property to offer I cannot raise a dime."⁴⁰ He was seriously considering halting work on the tunnel, but did not want the trained crews of tunnelers broken up and scattered. He wrote Cartwright "we must keep the men at work and supply them with provisions and store goods until we can raise money to pay off."⁴¹ Finally, on August 17 Haupt gained a breathing spell by borrowing \$3,500 and simultaneously receiving word from Cartwright that the length of the tunnel had reached 1032 feet or slightly more than was necessary to fulfill one of the conditions for the state loan.⁴² Haupt immediately wrote Cartwright "this is quite as far as it is expedient for us to proceed until some portion of our

⁴⁰Haupt to Cartwright, August 15, 1857, Haupt Papers, Box 1.

⁴¹"I suppose Galbraith will raise \$2,000 in Erie, use this to pay the men in part until more is provided." Ibid.

⁴²Note of August 17, appended to Ibid.; Haupt to Cartwright, August 17, 1857, Haupt Papers, Box 1.

expenditures (over \$230,000) shall have been returned to us. . . . I desire and request . . . that you suspend work until stockholders pay present subscriptions."⁴³

The strain of the previous three weeks' effort was clearly showing in Haupt's letters. He vented his spleen on the state of Massachusetts, saying he had prepared seven miles of railroad west of Adams and dug 1,000 feet of tunnel, but had not received a cent. "Such want of liberality I did not expect from Massachusetts. . . . If my actual cash advances should this day be returned I would still be a loser to the extent of \$50,000 by losses incurred in the conversion of property into cash and in the withdrawal of attention from other important interests."⁴⁴ He was still piqued at the refusal of Boston to subscribe to the work being done for their benefit, ". . . many of the businessmen hold one or more shares in the stock of the Western RR which obscures their vision. . . ." In fact, the lack of financial assistance seemed to be a malady affecting all the citizens of Massachusetts who ". . . think us a good set of fellows for working so hard for their benefit but

⁴³ Parentheses in the original. ". . . It would have been perfectly unreasonable for us to suppose that subscribers to the stock of the Troy & Greenfield RR would practically repudiate their obligations or that Boston would hold back as she has done. . . ." Haupt to Cartwright, August 17, 1857, Haupt Papers, Box 1.

⁴⁴ "I never should have touched this contract had not the \$2,000,000 loan of the state given the company a high credit out of Massachusetts. . . ." Ibid.

they save their money by maintaining a masterly inactivity, they belong, not perhaps to the Know-nothings, but certainly to the do-nothings."

The financial panic broke August 24, when the New York branch of the Ohio Life Insurance and Trust Company closed its doors and brought in its wake a chain reaction of failures by other banks, railroads and commercial firms. To meet obligations and stave off runs, the banks hurriedly called in their loans, drying up credit.⁴⁶ Haupt's mother died on the same day, and he was occupied for four days in Philadelphia making the funeral preparations.⁴⁷

However, Haupt was in a better position when the panic broke than he had been for several months. The suspension of the work relieved him of the necessity of meeting a monthly payroll and allowed him to trim his expenditures and cease extending his liabilities. The suspension gave him a small breathing spell although the situation was far from healthy. "I find that our bills payable with endorsements for D.C. & Co. and some private matters of my own run up to \$60,000 between this and April next. I have no means of meeting this as the property I have is not

⁴⁵Governor Gardner was a member of the Know-Nothing party. Ibid.

⁴⁶Taylor, The Transportation Revolution, pp. 349-350.

⁴⁷Haupt, Philadelphia, to Cartwright, August 27, 1857, Haupt Papers, Box 1.

marketable."⁴⁸ His woes increased on September 5, when Christian Spangler failed to meet his notes, some of which were endorsed by Haupt. Business associates raised a pool of \$50,000 to save Spangler but it was insufficient.⁴⁹ Haupt reviewed the new situation and determined that "I find that in all probability I will be able to stand although my liabilities are increased \$7,000 by endorsements for Spangler. . . ." Haupt managed to negotiate extensions on his notes with small payments ". . . so that I can see daylight."⁵⁰ By September 10, Haupt had managed to meet all his pressing obligations and wrote Cartwright that ". . . all I have to say is save the money."⁵¹ But Haupt had continuous calls on his loans and without means to meet them was at the mercy of his creditors if they wished to bankrupt him. By September 21, Haupt was to the point where ". . . if the bank will not carry the note let them send it down and have it returned protested, paying is out of the question. Those who will extend I am willing to pay

⁴⁸Haupt to Cartwright, August 24, 1857, Haupt Papers, Box 1.

⁴⁹Chapman, "Haupt," XII, p. 3; Spangler's financial affairs were closely interwoven with Haupt's and Haupt foresaw trouble for Spangler. "Unless something . . . is done H. Haupt & Co. must fail. This will be pretty certain to carry Spangler with it." Haupt to Cartwright, August 24, 1857, Haupt Papers, Box 1.

⁵⁰Haupt to Cartwright, September 5, 1857, Haupt Papers, Box 1.

⁵¹Haupt to Cartwright, September 10, 1857, Haupt Papers, Box 1.

12 per cent for 6 mo. . . ." ⁵² Haupt was particularly afraid because so many of his notes were held in Philadelphia where ". . . judgement and execution follow rapidly and I could be sold out in a short time by any holder of endorsed paper." ⁵³ Early in October Haupt placed his holdings in the Clearfield Company and the title to Chestnut Hill in the hands of Derbyshire to protect the holders of his endorsed paper. ⁵⁴ To a creditor whom he was unable to pay, Haupt gave a judgment without stay of execution, ". . . so that if anyone else sues, he can immediately have execution issued, sell me out and then lease my furniture to me. I . . . have been preparing my wife for the worst, if it comes, and I almost wish it to come to terminate the suspense." ⁵⁵ The suspense ended October 29, when a note of Haupt's was protested by a bank, ". . . it is the only protest that I have had, but one is as bad as a dozen so far as credit is concerned." The Pennsylvania properties which remained in Haupt's name were seized and enough of them sold at a sheriff's sale to satisfy the holder of the note. No more of Haupt's notes were protested and his precarious

⁵²Haupt to Cartwright, September 21, 1857, Haupt Papers, Box 1.

⁵³Haupt to Cartwright, October 2, 1857, Haupt Papers, Box 1.

⁵⁴Ibid.

⁵⁵Haupt to Cartwright, October 12, 1857, cited in Chapman, "Haupt," XII, p. 4.

financial structure remained essentially intact.⁵⁶

While Haupt was fighting to stay afloat financially, the boring machine he inherited from the firm of Serrell & Company was finally tested at the tunnel, almost two years late. When Serrell was eased out of the firm in July 1856, Haupt agreed to pay for the machine which cost him at least \$18,600, despite the fact that he had little faith in its ability to aid the tunnel work.⁵⁷

The machine was invented by James Wilson of Massachusetts and was constructed by the Novelty Works of New York City. It was a huge contraption, powered by steam, with a revolving set of grinders shaped like a giant fan blade that was designed to chew an eight-foot hole through the mountain.⁵⁸ The machine was completed late in 1856 and shipped to the tunnel in January 1857, but modifications took an additional ten months before it was ready for a trial.⁵⁹

Since Haupt had invested so much money in the Wilson machine he wrote to Cartwright that ". . . I am rather in

⁵⁶Haupt to Cartwright, October 29, 1857, Haupt Papers, Box 1; Herman Haupt to Anna Cecilia Haupt, October 7, 1866, Haupt Papers, Box 5.

⁵⁷Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18; Galbraith, Boston, to Haupt, September 25, 1856, Haupt Papers, Box 1.

⁵⁸Chapman, "Haupt," VIII, p. 1.

⁵⁹Galbraith, North Adams, to Haupt, January 5, 1857, Haupt Papers, Box 1.

favor of a trial, the suspension on the eve of readiness to start will be interpreted as a failure and an actual failure will not be made worse as we can put it on the character of the material and say that we did not expect it to work. . . . if it should succeed the benefit will be so much the greater."⁶⁰ By November, work in the tunnel was suspended, and the machine was run up to the left side of the shaft for the test. It managed to gouge a hole about two feet into the mountain before it broke down. Unfortunately, it was not removed and its rusted hulk leaning against the side of the mountain became a symbol of the future destined for the tunnel.⁶¹ The failure did not unduly worry Haupt but it came at an inopportune time and furnished ammunition for his critics for the next twenty-five years.

As Haupt was teetering on the brink of bankruptcy and hopes for rapid prosecution of the work were dashed by the machine's failure, his partners Dungan and Steever decided it would be wise to dissolve the firm of H. Haupt & Company and disassociate themselves from its liabilities. Cartwright disagreed with his partners and wished to carry on with the Hoosac contract, but after some negotiating the partnership was formally dissolved November 23. The agreement stipulated that a final settlement of its business was

⁶⁰Haupt, Philadelphia, to Cartwright, August 17, 1857, Haupt Papers, Box 1.

⁶¹Chapman, "Haupt," VIII, pp. 1-2.

to be drawn up by Haupt and Cartwright. Haupt was not unhappy to be rid of his second set of unproductive partners as he was carrying a portion of their debts and with the exception of Cartwright, they had contributed nothing to the firm.⁶²

Haupt was determined to proceed after he had weathered the financial panic of 1857 and shed two partners. He met with Cartwright in January 1858, to estimate how much additional capital was needed to carry the work to the first installment.⁶³ They concluded that \$30,000 cash, and credits for railroad iron, would allow them to finish the seven miles of the road east of Adams which would qualify for the state script. Since credit was impossible to obtain at any price, Haupt reasoned that the money must either come from the Massachusetts legislature or subscriptions from towns along the line and perhaps from Boston. These were his two principal efforts for the year.⁶⁴

In pursuance of these aims Haupt sponsored a petition to the legislature in January 1858, asking for the

⁶²The terms of the agreement stated that the work would never be resumed under the existing corporate organization, but the final document was left until all the obligations of the firm could be determined. Chapman, "Haupt," XVI, p. 3.

⁶³Haupt, Philadelphia, to Cartwright, December 28, 1857, Haupt Papers, Box 1.

⁶⁴He needed about \$70,000 to complete the work for the first installment. Statement of Haupt to Special Committee, 1864, pp. 20-21.

state script to be issued in smaller payments for smaller amounts of work to help capitalize the unfinished work. Haupt went to Boston on January 4, and spent much of that month trying to insure acceptance of his petition.⁶⁵ The opposition was again led by Harris and the Western Railroad, allied with the anti-tunnel members of the legislature who did not believe that the project was practicable. The suspension of the work added emphasis to the anti-tunnelites' claims and the bill was held in committee where it failed to receive the necessary support. Haupt concluded by the middle of the month that further efforts in that direction were useless after receiving the advice that "the popular impression with regard to railroad enterprise generally, and with regard to some of the individuals connected with the tunnel particularly, must change before any new legislation can be regarded as at all likely to be had."⁶⁶

Haupt returned to Philadelphia late in January, no

⁶⁵Haupt to Cartwright, December 28, 1857, Haupt Papers, Box 1.

⁶⁶The advice came from Charles Hale, a member of the Massachusetts House of Representatives. He also added: "I greatly regret that you and your associates should have been induced to come to Massachusetts under a misapprehension of the degree of general interest felt in the tunnel. . . . meanwhile, you only have for your own public-spirited efforts, the inadequate reward which many of the greatest of public benefactors have received from their contemporaries viz. ingratitude and pecuniary loss." Charles Hale, Boston, to Haupt, January 18, 1858, Haupt Papers, Box 2.

closer to the needed capital than he had been at the end of 1857. He visited several business associates in Philadelphia and Harrisburg without success. On January 30, he received a note from Derbyshire offering Haupt the needed \$30,000 without security at six percent for eight months. Haupt triumphantly wrote Cartwright the same day that Derbyshire's generous offer had to be an act of God, ". . . as they have already \$50,000 locked up in various matters with which I am connected and although very safe and cautious men they are not reputed to be possessed of very large means."⁶⁷ Money at this time was selling for eighteen percent or more per year.⁶⁸ When the contract was signed February 4, 1858, Derbyshire added \$3,000 to his original proposal. Haupt gave Derbyshire as collateral a chattel mortgage on all the equipment owned by H. Haupt & Company, his personal interest in the company, and all monies due him from the Troy & Greenfield Railroad.⁶⁹ Once again Haupt had prospects of carrying on the work.

Haupt's former partners, Dungan and Steever, seeing

⁶⁷Haupt to Cartwright, January 30, 1858, Haupt Papers, Box 2.

⁶⁸Haupt later remembered Derbyshire's generous offer as another turning point in his life, along with his religious transformation at West Point. Herman Haupt to Lewis M. Haupt, March 26, 1905, Haupt Papers, Box 9. In gratitude, Haupt named his next son Alexander James Derbyshire Haupt.

⁶⁹Contract between Haupt and Derbyshire, February 4, 1858, Haupt Papers, Box 2.

that Haupt had weathered the panic and miraculously raised additional capital in a credit starved market, suddenly realized that he might make the state loan. They petitioned Haupt, who had not yet determined upon the terms of the formal dissolution of the company, to reinstate them as partners.⁷⁰ This was Haupt's final chance to rid himself of these parasites, and that he did not take it must be considered one of his worst misjudgements in the whole Hoosac affair. Haupt agreed to take them into H. Haupt & Company again as partners, knowing full well that they were still bankrupt and could contribute nothing toward the completion of the contract. Haupt had become very close to Henry Cartwright, addressed his letters to "Brother Henry," and appreciated the excellent job Cartwright did of relieving him of the bothersome day to day details of overseeing the work. Cartwright did not wish to see his partnership with Dungan and Steever dissolved, and felt that the profits from the Hoosac were their only chance for salvation. He prevailed upon Haupt to allow his partners to reenter the firm.⁷¹ Haupt also may have felt some loyalty to Steever, who had been in partnership with his father some thirty years before. Whatever Haupt's thoughts, a new contract was drawn up and signed on February 12, 1858, between the

⁷⁰Chapman, "Haupt," XVI, p. 3.

⁷¹Chapman felt that Cartwright probably talked Haupt into readmitting Dungan and Steever. Ibid.

four men for reorganization of the partnership. Steever and Dungan joined Galbraith as special partners, were relieved from further liability and capital advances, and contributed no further effort towards prosecution of the work. Any dividends were to be divided among them as if they were general partners, but not until the securities advanced by Haupt for their collateral were returned.⁷²

The profits were to be distributed in the following manner: Haupt 39%, Cartwright 10%, Dungan 10%, Steever 10%, Galbraith 10%, Derbyshire 10%, and Thomson, Scott and Burroughs 11%.⁷³

The most remarkable clause in the contract stated that "no portion of any profits that may be earned in the construction of the Troy and Greenfield Railroad and Hoosac Tunnel shall be paid to H. Haupt or to his heirs, executors, or assigns."⁷⁴ Haupt injected this clause in an attempt to allay the charges that he was making huge profits from the contract and was cheating the state out of millions.⁷⁵

⁷²Terms of the contract are cited in ibid., p. 4.

⁷³Distribution of Assets of the firm of H. Haupt & Company, March 5, 1877, by Henry Cartwright, Haupt Papers, Box 7.

⁷⁴Chapman, "Haupt," XVI, p. 4; Herman Haupt, Hoosac Tunnel Papers 1866 (Boston: Wright & Potter, Printers, 1866), p. 2.

⁷⁵Opponents of the tunnel often attempted to discredit Haupt personally for if he could be removed from the work there was little chance any other contractor would take it up. Thus the tunnel could be effectively blocked. Attacks on Haupt drastically increased after he actually received some state money.

Unfortunately this clause did not receive wide publicity, and the charges increased rather than diminished. All the profits of Haupt's thirty-nine percent interest in the firm were to go to a board of trustees to be used ". . . with a view to advance in the highest degree the interests of humanity." The board consisted of Derbyshire, Spangler, Haupt's brother Lewis, a relative, Charles Schaeffer, along with the members of H. Haupt & Company.⁷⁶

The reorganization of the firm led once again to a new contract with the Troy & Greenfield Railroad. Under this contract, the last to be made with the railroad, that company remained independent only in a legal sense. H. Haupt & Company became indistinguishable from the Troy & Greenfield Railroad, with the latter remaining in existence only to comply with the state loan act which had granted the bonds to the railroad.⁷⁷

Since the Troy & Greenfield had been unable to raise additional subscriptions, the stipulation that a certain cash sum was to be paid the contractors was waived in the new contract. In return, H. Haupt & Company was given the right to collect and allocate subscriptions and to complete the tunnel and railroad in any manner which

⁷⁶Chapman, "Haupt," XVI, p. 4.

⁷⁷All business transacted between Haupt and the state had to go through the Troy & Greenfield. This was the only reason the company was left in existence.

would comply with the provisions of the state loan act of 1854. The contractors agreed to build the railroad to the same specifications used on other railroads forming the continuous link eastward to Boston with the provision that if sharper curves were used ". . . they shall be changed at the expense of the contractors at or before the time of completion of the tunnel. . . ." The contract further specified that ". . . if any trestlework or temporary bridging should be used in construction of the road, this also shall be changed by, and at the cost of the contractors and replaced by permanent structures, as soon as practicable after the completion & opening of the whole line."⁷⁸

The contractors agreed to pay all expenses of collecting subscriptions and in return had the use of any revenue from completed and operating portions of the Troy & Greenfield Railroad. H. Haupt & Company was not responsible for the debts of the railroad and revenues accruing from opened portions of the line could not be applied to payment of those debts, until the contractors had been paid. The contract stated that ". . . any State Script, that may be at any time delivered to the Treasurer of the Company, shall be promptly handed to the contractors." The final humiliation of the Troy & Greenfield Railroad

⁷⁸These two clauses became important later. Contract between H. Haupt & Company and the Troy & Greenfield Rail Road Company, February 18, 1858, Troy & Greenfield Papers.

⁷⁹Ibid.

was the agreement that H. Haupt & Company would pay to the railroad ". . . not less than Five Hundred Dollars, to defray the necessary expenses of organization & of printing."⁸⁰ The total contract was now worth \$4,000,000, of which \$2,000,000 was the state loan, \$900,000 mortgage bonds of the railroad, and the remainder in stock of the railroad which Haupt was to accept at par value for work completed and sell himself.⁸¹ H. Haupt & Company was still responsible for paying ten percent of the state script back into the sinking fund. The board of directors of the Troy & Greenfield approved the contract February 18, 1858, with Haupt acting as clerk pro tem of the board.⁸² He was appointed general agent of the railroad March 24, 1858, with the understanding that all agreements made by Haupt for the railroad would be ratified by the board of directors.⁸³ On May 20, the board of directors took note of the clause in the partnership agreement of H. Haupt & Company that Haupt would not accept any profits from the contract with the Troy & Greenfield, and appointed him chief engineer of the

⁸⁰Haupt would have done well to leave this phrase out of the contract for it was often publicly cited as proof that he owned the Troy & Greenfield. Ibid.

⁸¹Ibid.

⁸²Minutes of the Board of Directors Meeting, February 18, 1858, Troy & Greenfield Papers.

⁸³Minutes of the Board of Directors Meeting, March 24, 1858, Troy & Greenfield Papers.

railroad.⁸⁴

The virtual absorption of the railroad company by H. Haupt & Company proved to be unfortunate for Haupt. Mention of the Troy & Greenfield in political circles brought forth sly comments to the effect that the company was a smokescreen for Haupt which became synonymous with charges of venality. The officers of the railroad now had to rely on Haupt for their salaries, but since they performed no work he felt no obligation for payment. The result was that in order to make the railroad turn over its bonds Haupt had to pay "inducements" of up to \$1,000 to the president and treasurer, D. N. Carpenter and Wendell Davis. This blackmail irritated Haupt, but he needed their signatures on the bonds and he was forced to comply. His relations with the shadow management of the company remained strained as long as the company remained in existence.⁸⁵

⁸⁴Resolution of the Board of Directors, May 20, 1858, cited in Chapman, "Haupt," V, p. 5.

⁸⁵Haupt's relations with the management of the company had been difficult from the first. Late in 1856 Galbraith had written: "I noticed a little backwardness about both Davis and Carpenter which with some hints dropped by one or both of them led me to infer that they desired some understanding as to their personal interest in our success. . . . Carpenter . . . gave me to understand that some little inducement would be acceptable. . . . Davis felt himself really but little more than H. Haupt & Co.'s agent. . . . I confess to being no little amused on discovering that Carpenter crotchets." Confidential, Galbraith, North Adams, to Haupt, December 22, 1856, Haupt Papers, Box 1; From some "little inducement" the ante slowly raised, and by 1858 in order to get Davis to sign the corporate bonds Haupt ". . . was forced to promise Davis \$1,000 after which the

Haupt relieved another pressure in February when he found a company that was willing to give him credit on railroad iron. The Haupts, and particularly Anna Cecilia, were good friends of General John E. Wool of Mexican War fame.⁸⁶ General Wool's nephew, John A. Griswold of Troy, New York, owned the Rensselaer Iron Works. Griswold, at the urging of Wool, arranged credit through a Troy bank for the railroad iron needed to equip the seven-mile stretch of line.⁸⁷ The way was now clear for Haupt to reach the first installment of the state loan.

Haupt now turned his attention to raising subscriptions to the Troy & Greenfield's stock in the small towns along the railroad. In each town the voters had to approve a town subscription by a two-thirds majority in order to legally subscribe.⁸⁸ Haupt visited these towns during the spring and summer, held public meetings, and explained the

matter was arranged. It is too bad we must be robbed at this rate after all our sacrifices and labors." Haupt to Cartwright, September 3, 1858, cited in Chapman, "Haupt," V, p. 6.

⁸⁶Anna Cecilia Haupt to General John E. Wool, n.d., Haupt Papers, Box 2.

⁸⁷Statement of Haupt to Special Committee, 1864, p. 20; Chattell Mortgage by H. Haupt to Rensselaer Iron Company, Troy & Greenfield Papers; The mortgage was for \$35,085.45.

⁸⁸The act allowing towns to subscribe was passed in 1855 and forbid the towns to subscribe in excess of three percent of the assessed valuation in each town. Unidentified newspaper clipping, n.d., Haupt scrapbook, pp. 141-142.

benefits to be derived locally by the completion of the Troy & Greenfield and a through route to the west. Despite predictions to the contrary, Haupt managed to persuade the voters in every town he visited to approve the subscription and raised \$175,000.⁸⁹ Unfortunately, most of the towns hedged their subscriptions with crippling amendments stipulating that they would not pay any money into the company until the railroad was completed and opened. The net result was that only two towns, Adams and Williamstown, paid their subscriptions totalling \$93,000.⁹⁰ The indirect benefits of Haupt's fund raising in northern Massachusetts outweighed the financial gains. He succeeded in instilling in the region a fervent desire to see the tunnel and railroad finished that had repercussions three years later when the state considered dropping the tunnel project. After 1858, there was little chance that such a move would remain unopposed in political circles by northern Massachusetts.

With adequate financial backing, Haupt resumed work on the railroad and the tunnel on May 3. The work on the tunnel was restarted in anticipation of the second installment of the state loan and progressed from ten to

⁸⁹Commonwealth of Massachusetts, Memorial of H. Haupt, Senate Document No. 95, March 1863, p. 5.

⁹⁰Resolution of Town of Adams, n.d., Haupt Papers, Box 1; Chapman, "Haupt," XII, p. 6.

thirty-five linear feet per week.⁹¹ The crews were small, about thirty-five to forty men per heading, and all the drilling was done by hand and blasting with black powder. The work was under the direct supervision of Cartwright.⁹² The railroad, which had been graded and readied for the rails and fishplates before the suspension of the work, was now pushed forward quickly. By August 1858, the required seven miles of road was nearly completed, and Haupt applied to the governor and council for the first installment.⁹³

Payment of the state loan, as with everything connected with the Hoosac contract, was not without opposition and technicalities. Governor Gardner and his attorney general, Stephen H. Phillips, were not enthused about the payment and were determined to prevent it.⁹⁴ A close inspection of the work was made by members of the council, who found that not all the ties were cut from chestnut. When Haupt pointed out that not all the ties on the Western Railroad were chestnut either, the council dropped the

⁹¹Account of three weeks work done on tunnel, by the superintendent, May 22, 1858, Haupt Papers, Box 2.

⁹²Haupt's payroll ran about \$200.00 per week of six working days. Foremen were paid \$11.54 per week, mechanics \$6.46, laborers \$5.40, and blacksmiths \$7.39. Accounts of work done on tunnel for weeks between May 8 and August 16, 1858, Haupt Papers, Box 2.

⁹³Statement of Haupt to Special Committee, 1864, pp. 20-21.

⁹⁴Chapman, "Haupt," IX, p. 1.

objection and recommended payment of the state loan.⁹⁵ The real problem arose over the stipulation of the loan act of 1854 which stated that before receiving the bonds, the Troy & Greenfield must have \$120,000 paid into the treasury from the sale of \$600,000 worth of their stock. The railroad had been able to sell very little of its stock and was short about \$100,000 of meeting the terms of the act. Haupt had sold stock to towns along the line but the attorney general rendered an informal opinion that the conditions attached by the towns disqualified their subscriptions from fulfilling the letter of the loan act. The rest of the stock had been paid to Haupt and Serrell for work actually done and neither of the men had paid cash into the treasury of the railroad. Since Haupt also had possession of the 5,987 shares paid to Serrell for construction work the responsibility for payment of the remaining \$100,000 rested upon him.⁹⁶

Haupt solved this problem with a unique maneuver. The contract between the Troy & Greenfield and H. Haupt &

⁹⁵Statement of Haupt to Special Committee, 1864,
p. 21.

⁹⁶Chapman, "Haupt," IX, p. 1; Haupt originally proposed to let the railroad's indebtedness to him be credited on their books as his subscriptions payments. ". . . It was proposed by the president, to exchange receipts, the company giving credit to the contractors for \$100,000 on account of subscriptions, and receiving credit for an equal payment on account of contract; this would have been a perfectly fair business transaction, . . ." Haupt, Closing Argument of Haupt on behalf of the Troy & Greenfield Railroad Co., pp. 7-8.

Company stipulated that any money paid into the railroad in stock subscriptions must be turned over to the contractor immediately. Since the \$100,000 was technically payment for subscriptions, Haupt borrowed that amount from a bank for a few hours and paid the assessment on his stock. The treasurer of the railroad immediately returned the money to Haupt as required by the contract, and Haupt in turn returned it to the bank.⁹⁷ "A mere form," observed Haupt.⁹⁸ Despite the fact that the attorney general ruled that the transaction was entirely within the law and ordered the state bonds issued, the financial manipulation was used against Haupt by enemies of the tunnel as an example of the unscrupulous methods employed by Haupt to swindle the state.⁹⁹ Haupt was never able to satisfactorily explain the transaction without admitting that the Troy &

⁹⁷Chapman, "Haupt," IX, pp. 1-2.

⁹⁸Committee of Investigation on the Hoosac Tunnel Loan. Communication of H. Haupt To the Governor and Council of the State of Massachusetts, Containing a Review of the Report of the Committee, Certificates and Affidavits. Also, a Report of the Chief Engineer of the Troy & Greenfield R. R. Company on the Characteristics of the Road, and Principles of Location (Greenfield, Mass.: H. D. Mirick & Co., 1860), p. 9, hereinafter cited as Report of Investigation of Hoosac Tunnel Loan, 1860.

⁹⁹"It is true, by some sort of legerdemain, Mr. Haupt--for he had now literally pocketed the corporation--managed to get out of the State some two or three hundred thousand dollars of script by bogus subscriptions to the stock, . . ." F. W. Bird, The Road to Ruin: or, the Decline and Fall of the Hoosac Tunnel. "Save me from my Friends." (2nd ed.; Boston: Wright & Potter, Printers, 1862), p. 6. Hereinafter cited as Bird, Road to Ruin.

Greenfield corporation was actually a sham.

Payment of \$100,000 did not satisfy all the impediments blocking the issuance of the state bonds. The president of the Troy & Greenfield, D. N. Carpenter, wished to use the state money for payment of the old debts of the railroad contrary to the contract with H. Haupt & Company. Carpenter knew that the board of directors of the railroad would issue the bonds to Haupt and refused to bring the question up for a vote. The matter was referred to an unidentifiable lawyer who ruled in favor of the contractors, and an order was presented to the state treasurer during the second week of August for the money. The treasurer requested that Haupt wait three weeks, when the first coupons were due, and save the treasurer the trouble of clipping a coupon off each bond. Haupt consented, thinking that the last impediment had been breached, and the bonds were finally guaranteed.¹⁰⁰

Haupt appeared October 3 at the office of the state treasurer, who refused to issue the bonds. A lawyer for the Troy & Greenfield, Elias H. Derby, had quietly entered an attachment against the company for payment of his legal

¹⁰⁰Statement of Haupt to Special Committee, 1864,
p. 21.

fees.¹⁰¹ Since the bonds were secured by a mortgage on the company, Derby's attachment made it impossible to execute the mortgage for the state. Other creditors of the company saw that Derby might receive his money and immediately sent their lawyers to argue against issuance of the bonds to Haupt. Haupt finally hired a lawyer to argue his case, for if the attachments were honored Haupt would have to pay all the creditors of the railroad to obtain the loan. His lawyer persuaded the governor and council that Haupt's claims were valid, and Haupt paid Derby \$3,036.74 to settle his claim with interest. On October 8 Haupt received the bonds.¹⁰²

Haupt had finally reached the first milestone. He had expended \$224,622.05 of his own money prior to October 8 and was groaning under his load of debt. At least \$62,759.04 of his total expenses went to pay debts of his two sets of partners or to pay the interest on their notes.¹⁰³

¹⁰¹ Attachment of Elias H. Derby against Troy & Greenfield Railroad, October 2, 1858, Haupt Papers, Box 2; Haupt was incensed for Derby had charged the Troy & Greenfield \$50 and Haupt \$10 for the same trip to the state house. "My feelings have often been outraged but I suppose we must get used to this sort of robbery as the Irishman gets used to hanging. . . ." Haupt to Cartwright, n.d., Haupt Papers, Box 2.

¹⁰² Statement of Haupt to Special Committee, 1864, pp. 21-22; Haupt to Cartwright, October 5, 1868, Haupt Papers, Box 2.

¹⁰³ Disbursements by Haupt previous to payment of 1st installment Nov. 1, 1858, Haupt Papers, Box 18.

The \$100,000 state loan did not relieve Haupt of even a majority of his debts, but it did represent an encouraging sign and dispel some doubts about the feasibility of the project. Haupt could now attempt further construction with money other than his own while repaying a portion of his personal debt. But he detested the habitual maneuvering he had to engage in to save the contract. "This dancing attendance on the Attorney General is a species of purgatory from which I hope to be delivered some time."¹⁰⁴ Unfortunately it was not to be soon.

¹⁰⁴Haupt to Cartwright, October 3, 1858, cited in Chapman, "Haupt," IX, p. 3.

CHAPTER VIII

LEGISLATIVE SUCCESS

After receiving the state installment, Haupt's first obligation was the payment of ten percent of the loan into the state sinking fund for the retirement of the bonds which were sold on the London market. In October the pound sterling was worth about \$4.91, while the bonds were issued to Haupt on the basis of \$4.444 to the pound,¹ giving him a premium of almost forty-seven cents on each of the 22,400 pounds issued, enabling him to pay the entire ten percent from this profit. This allocation of the premium raised several legal problems. There was no stipulation in the loan act of 1854 defining the ownership of any premiums realized on the sale of bonds and the base rate of \$4.444 itself was never enacted into law. This exchange rate had been fixed in the 1838 loan to the Western Railroad, and successive state treasurers continued to recognize it as the standard equivalent. Haupt assumed that any premiums he realized were merely the fortunes of the market and kept

¹The U.S. Custom House established the value of the pound as \$4.84. Hoosac Tunnel Papers 1866 (Boston: Wright & Potter, Printers, 1866), p. 10.

the money.² When the Massachusetts bonds slumped below par at the outbreak of the Civil War, Haupt also absorbed the losses. But his actions, in the absence of any clearly defined legal ruling, left him vulnerable to suit from the state for recovery of "overpayment."³

Haupt's relations with the management of the Troy & Greenfield had become so strained that on October 24 he filed an attachment against \$25,000 worth of the company's property to recover \$21,207.71 he claimed they owed him. Included in this figure was \$2,000 paid to Carpenter and Davis for "advances & services," Derby's fee, the ten percent payment to the state, and even the \$25 counsel fees spent to relieve Derby's attachment.⁴ It is unlikely that Haupt expected to realize any financial settlement from the railroad, but the suit served notice to the company that Haupt was weary of its obstructionism.

Haupt next attempted to derive some revenue from the seven miles of road already completed between North Adams, Massachusetts, and Pownal, Vermont. On November 3, the Troy & Greenfield signed a contract leasing this

²Statement of Haupt to Special Committee, 1864,
pp. 29-30.

³After the final suspension of the work, suit was brought by the state against Haupt for recovery of the premiums realized on the sale of the bonds.

⁴Summons of October 24, 1858, Troy & Greenfield Papers; Attachment by the Commonwealth of Massachusetts, n.d., Troy & Greenfield Papers.

section to the Troy & Boston for an annual payment of \$8,000 and a promise to work actively for a consolidation of all the independent roads constituting the proposed through route.⁵

Haupt now set to work in earnest to construct the Southern Vermont Railroad which he had located and engineered during 1858 in an attempt to qualify for the second installment of the state loan. He let the work on the road to subcontractors and paid them with money raised by selling the bonds of the railroad.⁶ Haupt personally went to Vermont and directed the work. He gathered a small corps of engineers and workmen to help finish the grading which included his sons Lewis and Jacob, who worked rafting ties across a pond.⁷ The corps also included Russell Sage, Jr., son of the philanthropist,⁸ and Henry Harley, who rapidly became a favorite of Haupt's and later an important figure in the Pennsylvania oil regions. The entire corps

⁵The contractors had to provide freight and passenger depots, turntable, wood shed and water tanks, and a supply of water for the locomotives. Contract between Troy & Boston and the Troy & Greenfield Railroads, November 3, 1858, Troy & Greenfield Papers; The Troy & Boston later signed a lease for the incomplete Southern Vermont Railroad. Copy of lease, November 21, 1858, Haupt Papers, Box 2.

⁶Chapman, "Haupt," XVII, pp. 3-4.

⁷Herman Haupt, North Adams, to Anna Cecilia Haupt, November 14, 1858, Haupt Papers, Box 2.

⁸"Professor Lewis M. Haupt, A.M., C.E.," Trade Magazine, V (September, 1897), p. 458.

stayed at a country hotel where they slept two to a bed and complained about the poor food.⁹ The weather was bad, the ground was frozen solid, and a snowstorm on November 13 was so severe that the horizontally driven snow froze Haupt's eyebrows and beard.¹⁰ To complete the family circle, Anna Cecilia came up to Vermont at the end of November.¹¹ Despite the bad weather, Haupt pushed the work ahead and the line was completed early in 1859.¹²

Upon completion, Haupt received \$50,000 in stock and \$150,000 in the bonds of the company. As it only cost him about \$100,000 to construct the road, he cleared a profit for the first time since coming to Massachusetts. Unfortunately the profit was less than \$100,000 since he was forced to hypothecate the bonds at less than par to raise cash.¹³ The 500 shares of stock in the corporation were distributed among the partners of the firm with Haupt retaining 228 having a par value of \$100 each. Dungan, Steever, and Galbraith each received 50 shares although

⁹"... the meat is too tough to be eaten, the butter is rancid, and the coffee with very little milk is sweetened with strong brown sugar or possibly from its taste with molasses. . . . Lew don't like the fare very well, . . . he must learn a little how other people live." Herman Haupt to Anna Cecilia Haupt, November 14, 1858, Haupt Papers, Box 2.

¹⁰Ibid.

¹¹Herman Haupt, North Adams, to Mary Haupt, daughter, December 1, 1858, Haupt Papers, Box 2.

¹²Chapman, "Haupt," XVII, p. 4. ¹³Ibid., p. 5.

they advanced no money and did no work, and Cartwright received 115. Haupt suggested that Galbraith's shares ". . . not be given to him until he becomes decent."¹⁴

As the legislative session of 1859 approached, Haupt began to lay plans for another attempt to amend the loan act of 1854. Haupt thought the real problem with the loan act was that the state demanded a double security for its loan, not only the mortgage but also a percentage of paid in subscriptions to prove the company was solvent. As the company was unable to raise any money, Haupt sought to convince the legislators that since the Troy & Greenfield owed H. Haupt & Company over \$200,000, this in itself was adequate security that the contractors would complete the tunnel. Furthermore, if as his detractors claimed was true, he was only in the contract to extract huge profits from the state, then the state could be sure that he would complete the tunnel, if only because he wanted the profits. Actually, Haupt always claimed that if he only made a profit of ten dollars per linear foot and still paid the ten percent into the state sinking fund, he would realize fully six percent on his investment.¹⁵

¹⁴The remaining seven shares were divided among the directors of the line and the clerk. Haupt to Cartwright, October 20, 1858, Haupt Papers, Box 2.

¹⁵Herman Haupt, An Answer to the Inquiry "Why do the Contractors ask for more than the Tunnel Costs?" cited in Chapman, "Haupt," X, pp. 3-5.

Haupt knew that the legislature would not pass an act rescinding the subscription clause, so he attacked the problem indirectly and asked for a bill authorizing the town subscriptions, which he had already raised, be termed unconditional, qualifying these subscriptions as "paid in" and thereby meeting the terms of the state loan act. The town subscriptions totaled \$123,000, which, if the act passed, would give Haupt a credit margin on which to borrow more funds for prosecution of the work. Haupt asked the legislature to specify a tunnel fourteen feet wide and eighteen feet high, or a single track, to make the dimensions of the already completed portions of the tunnel an integral part of the loan act, which did not legally define the smaller dimensions.¹⁶ Lastly, Haupt wanted portions of the state loan turned over to him for construction of the railroad, irrespective of how much of the tunnel had been dug. Haupt was hard pressed to construct both the tunnel and railroad while receiving only the loan for the tunnel.¹⁷

¹⁶Chapman, "Haupt," X, p. 4.

¹⁷Argument on the Petition of the Troy & Greenfield Railroad Company, for a Change in the Conditions of the Loan Act, Before the Joint Committee of Railways & Canals, of the Legislature of Massachusetts, January 12th, 1859. With the Testimony of Professor Hitchcock on the Geology of the Hoosac Mountain (Boston: Alfred Mudge & Son, 1859), pp. 9-10; Haupt also toyed with the idea that the best way to get the tunnel through the mountain ". . . would be to wall up a dozen lawyers at one end of the tunnel, and put a good fee at the other. This brilliant idea having been suggested to a Boston lawyer, hope was at once dispelled by the observation that the profession was so practiced at

Haupt arrived in Boston January 11, 1859, to present his amendment and lobby for its passage.¹⁸ His lobbying tactics consisted of calling together county legislative delegations in the evenings in a Boston hotel and giving them a short talk on the state of affairs at the tunnel. Haupt wasted no time. Two days after his arrival he met with twenty-five members of the legislature at the Quincy House, where he thought his talk met ". . . a very favorable reception."¹⁹ Initial opposition to the bill arose from Carpenter and a member of the tunnel committee charged with drawing up the bill. These two men owned land in the vicinity of the uncompleted portions of the Troy & Greenfield and refused to support Haupt's bill in committee unless he allowed a rider to the bill stipulating that the road would be located through their property.²⁰ Haupt met with both men and worked out a compromise, and then on the evening of January 18 the three men wrote the initial draft of the bill in Haupt's hotel room. The opposition from within the Troy & Greenfield vanished after

overreaching, that there could be no trouble in reaching over and taking the fee out of the other end without going through." Ibid., p. 12.

¹⁸Chapman, "Haupt," X, p. 5.

¹⁹Haupt to Cartwright, January 13, 1859, Haupt Papers, Box 2.

²⁰"In view of all the circumstances I do not feel very comfortable." Ibid.

Haupt had a ". . . plain talk with Carpenter and he gives me to understand that he will be decent hereafter. . . ." ²¹

Active opposition from the Western Railroad commenced on January 20, when Harris took the floor before the committee and attempted to show that they were being asked to appropriate more than the tunnel cost. Haupt appeared in rebuttal with ". . . all the facts on my side and was able to tear his arguments to flinders. I gave some hard hits and felt better satisfied with myself than on any former occasion." ²²

Harris continued his active lobbying among the legislature, causing Haupt to admit that Harris was ". . . making some favorable headway at present. . . ." ²³

Harris went to see the new governor, Nathaniel P. Banks, in an attempt to sway the executive branch, but Banks continued to favor the tunnel project, confiding to Haupt that Harris ". . . did not observe sufficient moderation in his opposition to render it likely that it would be successful." ²⁴

By early February the newspapers took up the battle with

²¹Haupt to Cartwright, January 18, 1859, Haupt Papers, Box 2.

²²Haupt to Cartwright, January 20, 1859, Haupt Papers, Box 2.

²³Haupt to Cartwright, January 27, 1859, Haupt Papers, Box 2.

²⁴Haupt to Cartwright, January 29, 1859, Haupt Papers, Box 2.

the Boston Advertiser and the Springfield Republican leading the anti-tunnel attack. Harris' hometown paper was the most vitriolic, attacking Haupt and the tunnel with great effect in articles entitled "Threats of Hoosac Tunnel operations. Fraud upon the State."²⁵ Haupt continued meeting quietly with delegations and by the middle of February concluded that ". . . my quiet course up to now has been the true one."²⁶ "I am going up the scale & Harris down."²⁷ Two days later Haupt felt "the Springfield Republican is overdoing the thing and helping us. . . . Harris is disgusting everybody. . . . lobbying is not much in favor this session."²⁸ Haupt ignored the newspaper attacks until they began to sway members of the legislature. "I was annoyed today considerably to find that some of our friends could not see through the sophisms of Harris and the Republican and thought that there was much force in their objections, particularly in the case of the tunnel. I find an answer necessary and have been at work on another

²⁵Haupt to Cartwright, February 17, 1859, Haupt Papers, Box 2.

²⁶Haupt to Cartwright, February 14, 1859, Haupt Papers, Box 2.

²⁷Haupt to Cartwright, February 16, 1859, Haupt Papers, Box 2.

²⁸"I have kept away from the state house and hotels except where invited--my friends bring leading men to my room to get posted, . . ." Haupt to Cartwright, February 17, 1859, Haupt Papers, Box 2.

pamphlet."²⁹ "As the articles are no doubt paid for, there will be a pretty good bill for the Western Railroad to foot. The enemy has succeeded in greatly mystifying the whole project. . . . one must contend against falsehood, misrepresentation, abuse--everything."³⁰

The acrimonious debate continued throughout January and February. Although the bill passed the senate February 24,³¹ a last ditch effort to kill the bill was made in the house when a substitute bill was offered on March 6.³² Haupt went to the printers and got the original copy of the measure, discovered it was written by Harris, exposed the fact and killed the substitute.³³ As the bill neared the final vote in the house, Haupt became more hopeful: "We are, I think, constantly gaining. Harris is untireing [sic], his abuse of me has become so excessive that he has laid

²⁹"The newspapers are getting exceedingly abusive but it would be an endless task to attempt to answer them--Harris is persevering but his cause is beneath contempt. I would rather die than be guilty of a tithe of his falsehood and meanness. He will get his deserts some day--. . ."
Haupt to Cartwright, February 19, 1859, Haupt Papers, Box 2.

³⁰Haupt to Cartwright, February 21, 1859, Haupt Papers, Box 2.

³¹The same day a test vote in the house indicated that the supporters of the tunnel had the necessary support to pass the amendment. Haupt to Cartwright, February 24, 1859.

³²Haupt to Cartwright, March 5, 1859, Haupt Papers, Box 2.

³³"It seems as if Providence has always put it in my power to detect and expose the tricks of this man."
Haupt to Cartwright, March 6, 1859, Haupt Papers, Box 2.

himself open for damages and I have been repeatedly urged by friends to bring suit. The idea is absurd. He injures himself ten times more than he does me and he is used up."³⁴ "Harris is on the floor as much as if he was a member, going from seat to seat all the time."³⁵

The bill came up for the final vote March 15, and Haupt won by a margin of more than three to one. "This is a glorious triumph. Immediately after the vote it was moved to suspend the rules, which was done, and the bill passed to be engrossed."³⁶ Governor Banks wasted no time and signed the bill on March 26.³⁷ Haupt had won his first major victory in the legislature, but not without becoming embroiled personally in the tunnel controversy to such an extent that questions about his personality and integrity often overshadowed the actual issues.

The amendment offered long-term relief for Haupt but few immediate advantages. He had the prospect of receiving state money for completing portions of the road alone, for the new act appropriated \$700,000 of the state

³⁴Haupt to Cartwright, March 9, 1859, Haupt Papers, Box 2.

³⁵Haupt to Cartwright, March 12, 1859. Haupt Papers, Box 2.

³⁶The vote stood 167 for and 54 against in the house. Haupt to Cartwright, March 16, 1859, Haupt Papers, Box 2.

³⁷Chapman, "Haupt," X, p. 7.

loan to the railroad and the remainder, \$1,300,000, to the tunnel.³⁸ Stipulating the town loans as "unconditional" gave Haupt a new source of credit but left unsolved the old problem of paid-in subscriptions.³⁹ Specifications for a single-track tunnel granted no relief since he was already digging a tunnel that size. In fact, the new specifications gave rise to references toward the tunnel as Haupt's "cat hole" and charts depicting the large openings of other tunnels as compared to the tiny Hoosac bore became very popular.⁴⁰ Haupt determined to return for the 1860 session and attempt to put through a final modification of the loan act.

Haupt lost no time in working under the 1859 amended act. He immediately started construction on as much of the roadbed as possible to qualify for a portion of the second installment before another 1,000 feet of tunnel were driven. His first step was to move to Massachusetts to personally oversee the work. On April 1, he moved his family into a rented, two-story, Greek Revival, brick home

³⁸Closing Argument of H. Haupt on Behalf of the Troy & Greenfield Railroad Co., p. 10.

³⁹The problem was that after the \$123,000 was used to qualify for the second portion of the state loan, Haupt was still required to furnish additional money to qualify for the following installments. He had been relieved only temporarily.

⁴⁰Chapman, "Haupt," X, p. 5; Bird, Road to Ruin, diagram opposite page 6.

in Greenfield, Massachusetts.⁴¹ He could not bring himself to break all ties with Philadelphia and retained his home at Chestnut Hill.⁴²

Haupt spent May and June in the field laying out the route of the railroad from Greenfield to the tunnel. Henry Harley acted as his principal assistant engineer and drew the profiles of the projected line while Sage and Haupt did the actual location work.⁴³ By the end of June Haupt was in financial difficulty again despite reducing his payroll by using smaller gangs in the tunnel.⁴⁴ In July Haupt wrote sadly from Greenfield that although "we may be able to count progress again at the west end . . . things have been and still are very blue. . . . I have been trying to get the paper of the T & GRR Co. discounted at the 2 banks in this place to the extent of \$1,500 each

⁴¹Haupt, Chestnut Hill, to Cartwright, March 24, 1859, Haupt Papers, Box 2; Photograph of home in Greenfield, Adamson Collection.

⁴²Derbyshire was thinking about living at Chestnut Hill in Haupt's absence. Haupt returned to Philadelphia soon after the final vote in the house. Haupt to Cartwright, April 2, 1859, Haupt Papers, Box 2.

⁴³Haupt, Greenfield, to Cartwright, May 20, 1859, Haupt Papers, Box 2; Haupt confined his surveying to portions of the route close to home for Anna Cecilia was expecting their tenth child within the month, ". . . but it sometimes happens 2 or 3 weeks sooner than calculations." Haupt to Cartwright, May 30, 1859, Haupt Papers, Box 2; Alexander James Derbyshire Haupt was born on June 1, 1859.

⁴⁴J. C. Lloyd, superintendent at the west portal, to Cartwright, March 28, 1859, Haupt Papers, Box 2.

to pay interest on the state script . . . I must try elsewhere."⁴⁵ Failure to raise money forced Haupt to disband his engineering corps with the exception of Harley and Sage and suspend operations. Conditions were not as bad as they had been during the late summer of 1857, and Haupt felt that "the future is fair enough if we can get over the present period. Our hopes rest on pushing ahead at the tunnel."⁴⁶

Haupt went to New York on July 21 in an attempt to borrow money on the bonds of the Southern Vermont, but was disappointed. "A rotten worthless stock," wrote Haupt, "if known in the market is more acceptable as a basis for loans than the best securities in the world that have not a market value."⁴⁷ Unable to borrow on the bonds, he arranged a personal loan for ninety days by paying two percent per month. The company account on the first of August held exactly \$918.66.⁴⁸ However, the next day Haupt succeeded in raising \$5,000 in Boston, enough to carry the company

⁴⁵Haupt to Cartwright, July 20, 1859, Haupt Papers, Box 2.

⁴⁶Ibid.

⁴⁷Haupt did manage to get a small loan on his own paper which was ". . . the best I can do in N.Y. the great money metropolis--I should feel discouraged did I not look upward." Haupt to Cartwright, July 27, 1859, Haupt Papers, Box 2.

⁴⁸Haupt to Cartwright, August 1, 1859, Haupt Papers, Box 2.

through August, and Harley managed to prevent a protest of Haupt's note in New York. "The Lord has not permitted us to go overboard and always raises us up friends when most needed. . . . Although we are nearly out of the woods, yet, I am sick, tired and disgusted with financiering and with the intolerable meanness and selfishness with which it brings me in contact."⁴⁹ For the first time in almost two years Haupt was thinking seriously about selling out his portion of the contract if a buyer could be found, or dissolving the firm and reorganizing without Dungan, Galbraith or Steever. Haupt proposed to return to these men all their capital advances once the railroad was completed to the tunnel and to give Dungan, Cartwright & Company \$300,000 in stocks and bonds and Galbraith \$100,000 to liquidate their interest.⁵⁰ Galbraith had already indicated that he was more than willing to make some settlement for he was in financial difficulties and wanted to insure a return on his capital.⁵¹ He proposed a meeting with Haupt to iron out the details, but the whole scheme died before any action

⁴⁹Haupt, Boston, to Cartwright, August 2, 1859, Haupt Papers, Box 2.

⁵⁰Haupt to Cartwright, September 7, 1859, Haupt Papers, Box 2.

⁵¹" . . . I will at any time agree to any honorable arrangements that will meet the approval of my associates--the chief point with me would be to be freed from liability and secure my advances." Galbraith, Erie, to Haupt, August 6, 1859, Haupt Papers, Box 2.

was taken.

Part of Haupt's financial troubles stemmed from the refusal of the Troy & Boston to accept the Southern Vermont Railroad and operate it under the terms of their November 3, 1858, lease. The Troy & Boston demanded that improvements be made to the line by the contractors before acceptance. Furthermore, the Troy & Boston did not attempt to market the Southern Vermont bonds as stipulated in the lease and did nothing to make bank accommodations available to Haupt in Troy. The constant drain on his resources to meet the demands of the Troy & Boston irritated Haupt. "I feel some dissatisfaction when I reflect how completely we have placed ourselves in your power to compel us to labor and expend every dollar that we can raise by the sacrifice of our effects, or borrow from our friends, for your benefit and profit. . . . I think we have a right to expect either that you will accept the road as it now stands and release us from any further expenditures or you [will] not accept it and relinquish possession."⁵² The Troy & Boston charged the contractors full freight for all construction materials hauled over the Southern Vermont, even when the materials were to be used for the completion of a connecting link, a breach of both corporate etiquette and common sense. As another winter approached, Haupt was fearful that the harsh

⁵²Haupt to D. Robinson, treasurer of Troy & Boston Railroad, September 29, 1859, Haupt Papers, Box 2.

weather and the spring floods would require a great deal of additional work on the road at his own expense, and wished to have the road taken out of his hands before this occurred.⁵³

Another unexpected difficulty confronted Haupt during August and September. A subcontractor working on the tunnel gave notice of quitting the work after he finished 1,000 feet of excavation, for he found the rock much more difficult to work than expected. Haupt did not wish to change subcontractors in the middle of the work, for few reliable firms would accept payment only after partial completion of their contract: but ". . . there would be no advantage to us in insisting upon carrying out the contract for with dissatisfaction on either side it could not work properly."⁵⁴ "Dull's backing out will injure us. These men are not what they used to be, they have lost their energy."⁵⁵ Haupt allowed Dull to break his contract and placed an advertisement for another subcontractor offering

⁵³"It may be your wish to delay until another summer leaving us the risks of damages in winter and spring--I can scarcely believe that such is your deliberate intention, but I do believe that if not taken off our hands you would compel us to make good any damage and that the longer you delay the acceptance the more it will be for your pecuniary interest." Ibid.

⁵⁴Haupt to Cartwright, August 15, 1859, Haupt Papers, Box 2.

⁵⁵Haupt to Cartwright, August 17, 1859, Haupt Papers, Box 2.

payment in cash after the first 500 feet were excavated, which meant that at the rate of ten feet per week the contractor would have to carry the work for fifty weeks before the first payment was received.⁵⁶

Work on the tunnel now slowed. Haupt, forced to use smaller crews, found it difficult to make progress on the west end of the tunnel. For more than 500 feet into the mountain on this side, the rock lay in an almost horizontal strata and was generally much decomposed, making the excavation very difficult. The tunnel had to be arched to prevent unexcavated strata from falling, and blasting was much hindered by the looseness of the rock.⁵⁷ The result was that the cost of boring from the west portal ran well over \$100 per linear foot and the progress was infinitesimally slow. To speed up work on the west side, Haupt proposed a vertical working shaft placed 3,000 feet from the portal and 300 feet from the grade to provide two additional working faces and to get the work inside the loose rock.⁵⁸ The advertisement for a new subcontractor stipulated that this shaft was to be dug and all the hoisting equipment provided by the subcontractor.⁵⁹ By October 1859, the western

⁵⁶Advertisement "To Contractors for Tunnelling," 1859, Haupt Papers, Box 2.

⁵⁷Drinker, Tunneling, p. 316.

⁵⁸Chapman, "Haupt," XI, p. 2.

⁵⁹Advertisement "To Contractors for Tunnelling," 1859, Haupt Papers, Box 2.

bore had penetrated the mountain only 277 feet.⁶⁰

The eastern side of the mountain contained rock in a very nearly vertical strata and of a more compact consistency than the west end.⁶¹ Tunneling here was carried on much more rapidly, without arching, at a cost of between \$10 and \$33 per linear foot.⁶² By October 1859, the tunnel had progressed 1,180 feet from the eastern end into the mountain. The heading at the eastern end, or the smaller blasted bore which was widened into the full size tunnel, extended another 300 feet into the mountain, and the heading on the western end extended 261 feet further than the completed bore, giving a total excavation of 2,038 feet on both sides.⁶³

In order to speed up the work on the tunnel at both portals, Haupt spent a great deal of time and money attempting to perfect a workable rock drill that would quickly and easily drill holes in the faces of the tunnel for the placement of charges of blasting powder. These drills were complicated instruments and had taxed the ingenuity of several

⁶⁰Chapman, "Haupt," XI, p. 2.

⁶¹Drinker, Tunneling, p. 316.

⁶²Chapman, "Haupt," XI, p. 2; These prices include only the labor and cost of supplies actually used at the faces. When all the charges were calculated after suspension of work in 1861, the total cost per linear foot at the east end was \$54.35. Statement of Haupt to Special Committee, 1864, p. 10.

⁶³Chapman, "Haupt," XI, p. 2.

successive engineers since 1848. The drills had to perform three distinct movements at the same time: they had to penetrate forward into the rock and then immediately disengage to prevent the bit from sticking in the face, they had to progressively penetrate as the hole became deeper, and finally they had to rotate to obtain the drilling motion. Further, the whole machine had to be light enough for quick removal from the face to allow for the blasting. The drills had to be small enough to allow the blasted rock to be removed while drilling was in progress, but strong enough so the work would not be hindered by breakdowns. Not the least important, a source of power had to be provided that was cheap, dependable, and available in the tunnel.⁶⁴

The first attempts to develop a drill to meet these specifications were made independently by J. J. Couch of Philadelphia, and Joseph Fowle of Boston, in 1848. Couch patented a model in March 1849 which had the unique feature of a hollow cylinder with a piston inside attached to the drill bit. As the piston was drawn back and sent forward by means of steam, the bit alternately smashed into the

⁶⁴The technical requirements for an acceptable rock drill are explained in Herman Haupt, Tunneling by Machinery. Description of Perforators and Plans of Operations in Mining and Tunneling (Philadelphia: H. G. Leisenring's Steam Printing House, 1867), passim, hereinafter cited as Haupt, Tunneling by Machinery.

rock and was drawn away.⁶⁵ Fowle made an improvement on this idea and patented his drill in May 1849, but lacked the financial means to continue his investigations.⁶⁶ No further work was carried on in the United States for several years, but in Europe, where the Mt. Cenis tunnel was being driven seven and one-half miles through the Alps between France and Italy, an engineer named Sommellier developed a rock drill operated by compressed air, furnished by hydraulic power and carried into the headings in portable tanks.⁶⁷ The experiments of Sommellier throughout the late 1850's were widely heralded in United States newspapers, and Haupt collected all the clippings he could find on the subject.

Haupt did not have the time himself needed to experiment with a workable drill and consequently he sought an engineer to carry on the development for him. He found a

⁶⁵Haupt later had trouble patenting his drill because it contained this feature already patented by Couch. Haupt later claimed that the hollow piston of the Couch patent was separately invented by his employee, Stuart Gwynn. Drinker, Tunneling, pp. 196, 201.

⁶⁶Fowle's drill was also based on a concept similar to Couch's model. Ibid., p. 206.

⁶⁷Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 51. Although Sommellier used compressed air as a motive power successfully in tunneling the Alps, Haupt favored the use of steam. "I do not say that steam is preferable to compressed air as a motive power in tunnelling [sic]; but I do say that it is very much less expensive; . . ." Commonwealth of Massachusetts, Statement's Before Joint Standing Committee on Troy and Greenfield Railroad and Hoosac Tunnel, House of Representatives, No. 386, 1866, p. 20.

mechanical and mining engineer in South Boston, Stuart Gwynn, who had worked on underwater drills and had long desired to invent a rock drill.⁶⁸ Gwynn was a brilliant and more than slightly erratic man who could not work harmoniously with anyone.⁶⁹ Haupt employed Gwynn early in 1859, providing only the needed financial backing. Gwynn was free to design and experiment as he pleased. Any designs or patents resulting from the partnership were to be jointly attributed to the two men. Gwynn was asked not to bring a drill to the Hoosac until it had been perfected, for Haupt did not wish a repetition of the Wilson boring machine. Respecting Gwynn's wishes for privacy, Haupt confined his interest in the drill to inquiries on the progress of the work until the middle of 1860, when he took an active interest in the design and development of the machine.⁷⁰ Haupt was depending upon the invention of the drill to speed up the tunnel work in order to meet the completion date of December 31, 1865, that was stipulated in the 1859 amendment to the state loan act.⁷¹

The progress on the east end of the tunnel was

⁶⁸Drinker, Tunneling, p. 201; Chapman, "Haupt," XV, p. 2.

⁶⁹"Gwynn is a queer fellow and cannot be driven." Haupt to Cartwright, December 17, 1860, cited in Chapman, "Haupt," XV, p. 6.

⁷⁰Chapman, "Haupt," XV, p. 2.

⁷¹Ibid., X, p. 8.

sufficient by August to qualify Haupt for the portion of the state loan appropriated to the tunnel. By August 11, 1859, Haupt was balancing his budget on the assumption that "if we can get the two thousand feet finished in three weeks I can work through."⁷² By September 11, his tunneling crews had excavated 2,000 feet, and Haupt formally applied to the state for the bonds. A committee of the governor's council examined the work and certified it met the terms of the loan act and on October 1 suggested to Governor Banks that he sign the loan.⁷³ Haupt received 11,200 pounds sterling on October 4, which he promptly turned over to the brokerage firm of Blake Brothers in Boston.⁷⁴

The payment of a portion of the second installment did little to relieve the financial burdens on Haupt. The money was not immediately available, and as fast as it was received it was applied to the interest on old debts and to the current expenses of the work. The receipt of the installment actually hindered Haupt, as his silent partners, Dungan, Steever and Galbraith, felt that since the company

⁷²Haupt to Cartwright, August 11, 1859, cited in Chapman, "Haupt," IX, p. 3.

⁷³Chapman, "Haupt," IX, p. 3; E. Trask, Chairman of the Committee of the Council, to Governor Banks, October 1, 1859, Haupt Papers, Box 2.

⁷⁴The state had now turned over a total of 33,700 pounds sterling to Haupt, although not all of the bonds had been sold. Payments by State Treasurer to T. & G. RR. Co., July 12, 1861, Haupt Papers, Box 18; Chapman, "Haupt," XII, p. 9.

had received a windfall they were entitled to a dividend payment on their capital advances. Haupt attended a meeting of the firm held during November in Troy, where his partners refused to allow any compensation to Haupt for his services unless they were equally compensated, despite the fact they performed no services. Haupt refused to declare a dividend and explained his troubles in just keeping the work afloat.⁷⁵ He left the meeting very depressed, a mood that deepened during the following six months as his partners continually badgered him for money. Immediately after the meeting, Haupt wrote Cartwright, "since the meeting at Troy my desire and my determination to withdraw from the concern have been greatly strengthened. The view evidently taken is that I am entangled by agreements so that I cannot extricate myself and willing or not must continue to work as I have done, . . . but I cannot perceive any duty or obligation which requires me to give the concern my personal services."⁷⁶ Haupt reviewed his dismal financial situation as it stood in 1859 as compared to 1855 and concluded that even though ". . . I threw all my means, energies and credits into the tunnel enterprise [and] it is now comparatively safe, . . . I am to receive precisely nothing--I

⁷⁵No records of this meeting exist in Haupt Papers, but the outline has been pieced together from references made by Haupt in later letters. The meeting was not friendly.

⁷⁶Haupt to Cartwright, November 30, 1859, Haupt Papers, Box 2.

cannot appropriate a dollar of salary to myself without being required under the agreements to raise nearly 3 dollars more for other parties-- . . . Well the past may go, I will say no more but will try to be more wise in the future--I have done enough for the firm." Haupt felt that he could not afford to continue to offer his services forever and receive no salary. He expected to leave soon ". . . for I know not where in search of money. I do not work with much enthusiasm."⁷⁷

Early in December Haupt went to New York City to raise funds, but failed. On December 8 he still lacked \$5,500 needed to meet his bills payable for December, which totaled \$16,500. The firm's bank account in Troy was overdrawn by \$1,038, but by some adroit financial manipulation and exchange of notes in Boston, Haupt was able to meet the month's bills.⁷⁸ Despite the lack of money, the grading continued for the railroad on a three-mile section east of the tunnel, and Haupt made application to the state early in December for inspection of the work. On December 29, an engineer employed by the governor's council certified the work met the conditions for issuance of the second portion of the second state installment.⁷⁹

⁷⁷Ibid.

⁷⁸Haupt, Troy, New York, to Cartwright, December 8, 1859, Haupt Papers, Box 2.

⁷⁹Chapman, "Haupt," XI, p. 3.

On January 3, 1860, Haupt received 11,300 pounds sterling of the state bonds.⁸⁰

The receipt of this portion of the state loan brought the total of the state payments to Haupt to almost \$200,000, making with the sum raised from town subscriptions a total remuneration for work on the Hoosac by February 1860 amounting to \$300,000. The exact cost to H. Haupt & Company of the work expended was unknown, even to Haupt, because of his sloppy bookkeeping. But in February, Haupt attempted to show the legislature what his expenditures were, and he concluded they were approximately \$777,881.75, of which \$647,520.74 was spent directly on the Troy & Greenfield Railroad and the tunnel.⁸¹ This meant that about \$130,000 was applied to the repayment of old debts and credited to partners for advances never made. The net result was that H. Haupt & Company was in debt for about \$347,000 and possessed very little credit. Haupt's personal debt is unknown and probably was not even known to him, but stood in the neighborhood of a quarter of a million dollars.⁸² After four years of work on the contract, the

⁸⁰Payments by State Treasurer to T. & G. R.R. Co., July 12, 1861, Haupt Papers, Box 18. Haupt had now received a total of 45,000 pounds sterling.

⁸¹Report of Investigation of Hoosac Tunnel Loan, 1860, pp. 5-6.

⁸²Chapman calculated from Haupt's ledgers that Haupt's personal debt was actually \$218,010.66. Haupt himself claimed \$210,443.15. Chapman, "Haupt," XVI, pp. 23-24.

financial situation of the contractors was even worse than it had been during 1856 and the depression of 1857. Haupt possessed the only credit among the partners of the firm, and the responsibility for raising money to continue the work rested squarely upon him.

In the face of financial reality Haupt reluctantly determined to appear before the state legislature again in 1860 to seek the removal of the clause stipulating that a percentage of the stock subscription must be paid in before the state loan could be granted. He felt that he had no other choice for ". . . unless we get early and favorable legislation the probabilities are a suspension of operations. . . . I cannot see how we can go any further with the Atty. Genl's. construction of the Act."⁸³

When the legislature met in January, Haupt was there for the fourth consecutive year seeking legislative action. He asked not only for the subscription clause to be removed, but also for a clause allowing the Troy & Greenfield to cross public roads without building bridges as required by a new 1859 law, and for the state payments to be predicated upon the completion, within exact specifications, of work on both the railroad and the tunnel. Haupt also wanted to have the payments made at some more regularized interval of time, preferably monthly, to relieve

⁸³Haupt, Boston, to Cartwright, January 2, 1859, Haupt Papers, Box 2.

him of the necessity of raising money to carry on the work between state payments.⁸⁴ The crux of the whole amendment was that if it passed, state security would rest solely on the possession of substantially constructed road and not on the financial stability of the railroad company.

Also present in Boston for the fourth straight year in opposition to any improvement of the loan act was Daniel Harris. Each year the arguments had mounted in intensity and vituperation, and in 1860 they reached a new peak. The Springfield Republican swung its press into action and issued broadsides against Haupt and the contractors in an attempt to personalize the issue and maintain the mounting suspicion of corruption and fraud. "We suspect only [that] the legislature was prevailed upon to so essentially modify the terms of the original loan act as to permit the contractors to draw more money from the state treasury than they were required to expend upon the tunnel or the road; and that the contractors have thus been making money out of the state during the last year. . . . the contractors have thus had all the benefits arising from the generous and loosely-worded law of last winter, and from a cheap and shabby execution of their work."⁸⁵

⁸⁴Petition of the Board of Directors of the Troy and Greenfield Railroad to the Senate and House of Representatives, of the Commonwealth of Massachusetts, in General Court assembled, February 28, 1860, Haupt Papers, Box 2.

⁸⁵Springfield Republican, n.d., Haupt scrapbook, pp. 66-67.

Haupt maintained a suite in a Boston hotel and organized his lobbying efforts as he had in past years, bringing influential men to his rooms and explaining the bill and refuting the charges against him. Harris took to the floor of the legislature and appeared before the committee examining the bill. Haupt heard that Harris ". . . was as bitter as gall against me and went into great lengths of how we had cheated the State, he said that any honest man in Adams would bear testimony against us, that the people were much dissatisfied. It will be necessary for some of the folks . . . to furnish rebutting testimony."⁸⁶ Harris appeared before the committee again the next day, February 14, and Haupt's employee Henry Harley recorded portions of the dialogue. "Mr. Harris appeared before them, and . . . gave full swing to his tongue, using the terms 'swindler,' 'scoundrel,' etc., with perfect looseness. . . . Mr. Haupt gave some questions to Kimball [a member of the committee] to put at him, . . . and elicited the facts that most all of the opposition newspaper articles were written by him-- . . . and the evenings entertainment . . . was finally closed by Mr. Haupt asking a few questions in person which entirely finished the poor man, who retired from the field covered with anything but

⁸⁶Haupt to Cartwright, February 13, 1860, Haupt Papers, Box 2.

glory. . . ." ⁸⁷ In an attempt to allay suspicions of his technical competence, Haupt asked for and received recommendations from friends in New York and presented them to the committee. ⁸⁸

To Haupt's great surprise, the legislature not only passed his amendment but gave him much more than he had originally asked. ⁸⁹ The bill that was finally approved April 4, 1860, radically changed the whole structure of payments. The state dropped its requirement for stock subscriptions and took the finished work as security. To protect this security, the bill stipulated with more exactness

⁸⁷"The 'investigating committee' still continues its sessions, and though the members continue to dive deeper and deeper into the mud, it is evident they have not yet had the satisfaction of 'smelling a rat'. . . ." Henry Harley to Cartwright, February 15, 1860, Haupt Papers, Box 2.

⁸⁸John Griswold to Carpenter, February 21, 1860, Haupt Papers, Box 2, Griswold as a creditor of Haupt's could not understand why opposition existed to the tunnel and stated that he felt Haupt was necessary for its completion; William Gillespie, Union College, Schenectady, New York, to Carpenter, February 21, 1860, Haupt Papers, Box 2, felt that Haupt's reputation was so good that it was presumptuous of him to even write about it.

⁸⁹Haupt could not give full attention to the legislature in 1860 because he was trying to arrange some means of meeting his notes held by business associates in Philadelphia. One creditor wrote to Haupt earlier that "I am astonished that you again ask for an extension of your note, from the assurances you gave me, when the note was given, that it would be paid at maturity, has caused me to rely on it to meet my engagements." Andrew Eastwick, Philadelphia, to Haupt, February 22, 1860, Haupt Papers, Box 2; Steevers acted as Haupt's agent in Philadelphia and managed to secure extensions on most of the loans in return for a small payment on the principal. H. D. Steevers, Philadelphia, to Haupt, March 10, 1860, Haupt Papers, Box 2.

the specifications of the work, and provided for the yearly appointment by the governor and council of a state engineer to inspect the work monthly, mark its forward progress, and recommend payment or nonpayment of small sums of the loan. The engineer was responsible for certifying the portion of the whole work done and thus had the power to specify the exact amounts to be paid to the contractors. Haupt recognized that the new arrangement was fraught with dangers should an unfriendly engineer be appointed, but he had to accept the provision to save his entire amendment. The Troy & Greenfield was exempted from the requirement that all public roads must be crossed with bridges. As a final security precaution, the state gained the right to appoint two members to the board of directors of the Troy & Greenfield.⁹⁰

The most surprising provision of the bill was that the Troy & Greenfield was ordered to purchase the Southern Vermont Railroad for its full value of \$200,000. Moreover, the state promised to purchase the Southern Vermont from the Troy & Greenfield.⁹¹ In one fell swoop H. Haupt &

⁹⁰Copy of the 1860 Amendment to the Loan Act, Haupt scrapbook, p. 25.

⁹¹Haupt had not initially suggested that the state purchase the Southern Vermont Railroad. He first learned of it on March 13 when he wrote, "Legislation is a queer thing, and it is utterly impossible for any human being to conceive of the different phases that it may from time to time assume. . . . I cannot tell what queer shapes legislation may yet assume or what may be the results, but I

Company's \$200,000 worth of stocks and bonds in the Vermont line were brought up to par and taken off their hands for cash. Haupt lost no time in carrying out this provision, calling a stockholders meeting of the Southern Vermont for April 21. The meeting elected Haupt general agent for the company and gave him full powers to sell the railroad to the Troy & Greenfield. They also agreed not to issue any further capital stock.⁹² By May 3 all the requirements of the act had been met and Haupt received \$200,874.00 for the Southern Vermont.⁹³ The next day Haupt wrote that "people about the State House and elsewhere are only beginning to find out the points of our bill and now say that I have been too smart for the legislature. . . . I do not like the idea, . . . I would rather feel that I am honest than be considered smart by others--even Banks has this idea in his noodle."⁹⁴

anticipate something favorable. I learn that Merrill [a member of the legislature] thinks the state ought to have the S. Vermont Railroad as additional security, and proposes to pay \$200,000 in five per cent State script for it. This would be a lift far beyond my most sanguine expectations--it is possible that something may come out of it, if nothing more than a first rate advertisement of Southern Vermont Bonds." Haupt to Cartwright, March 13, 1860, cited in Chapman, "Haupt," XVII, p. 4.

⁹²Notes from the meeting of the Board of Directors of the Southern Vermont Railroad, April 21, 1860, Haupt Papers, Box 2.

⁹³Chapman, "Haupt," XVII, p. 5.

⁹⁴Haupt, Boston, to Cartwright, May 4, 1860, cited in ibid., pp. 5-6.

At the close of the 1860 legislative session Haupt felt that he had won a great victory and emerged with a workable loan act under which he could complete the contract.⁹⁵ But unforeseen problems loomed ahead.

⁹⁵"The act of 1860 seemed to give a death blow to the opposition, which for so many years had sought to destroy our credit, injure our reputations, and retard our progress. Our liabilities were reduced to a small amount, and our credit was good for a quarter of a million of dollars at least." Statement of Haupt to Special Committee, 1864, p. 23.

CHAPTER IX

DISSENSION AND SUSPENSION

The Southern Vermont windfall helped Haupt's financial position but deepened hostilities within the firm. During January 1860, before the favorable legislation of that year, Haupt's partners appeared at his home in Greenfield without either invitation or notice. They came to demand a settlement of accounts and the payment of a dividend, intimating that there was more money available than Haupt showed in the company accounts. Haupt tried unsuccessfully to demonstrate not only that he did not have any surplus money, but that the company was financially shaky. Furthermore, the firm's books showed no allowances for his services and the partners agreed to pay him only six percent on his debts while he often paid eighteen to twenty-four percent to obtain the money, putting the company in his debt.¹

The inaccuracy of the company's accounts kept by Haupt put him at a disadvantage in the dispute. "This matter of accounts has been a source of much annoyance and of humiliation to me. For a long time our affairs were so

¹Haupt, "Short History of Hoosac," pp. 7-8.

depressed that I felt desperate, perfectly indifferent whether I took receipt or made records or not. . . . I never expected to be hauled up to give minute explanations of my doings during those dark days. . . . I did not expect after being left to battle alone for 3 years without any financial support or assistance that my propositions for settlement would be rejected and I be put on the defensive, brought before a tribunal of which such a man as W.A.G. was a member to give humiliating explanations--. . ."²

Despite the confused condition of the firm's books and the precarious financial position of the construction account in January, and probably in an attempt to be rid of his partner's protestations, Haupt declared a generous dividend. He consented to give \$30,000 in cash and an additional \$30,000 in notes to the three men, along with \$20,000 in cash to Cartwright, to be distributed among them at a later date.³

²"I never want to look at an account book afterwards and I would agree to strike out \$5,000 from my true balance if I could be relieved from the necessity of doing it now. I must endeavor in some way to make money to pay debts and provide for my family. . . . If by giving a portion of my time to other matters I can help my finances I intend to do it and I do not wish the firm to consider that they have any exclusive lease upon my services." Haupt to Cartwright, March 12, 1860, Haupt Papers, Box 2.

³Chapman, "Haupt," XVI, p. 8, does not record this dividend in his discussion of the relationship between the partners; Haupt, "Short History of Hoosac," p. 7, erroneously dates the dividend as being paid January 1861, but his letters and accounts indicate that the money was paid in 1860. By April 2, 1860, Haupt had paid out \$36,200 of the dividend to the partners. Haupt to Cartwright, April 2, 1860, Haupt Papers, Box 2.

The 1860 legislative session and Pennsylvania business prevented Haupt from attending to the company's finances again until April 2, when he totaled the books and discovered he was \$4,445 dollars short of meeting the April expenses.⁴ "I now see what I feared at the time, the making of the January dividend was a great, probably a fatal error. I will however try to work through this pickle and then I positively assure you there is no power on earth, no flattery, persuasion, or coercion [that] can make me manage the finances longer."⁵

Haupt's problems with finances and his partners had just begun. When the news of the purchase of the Southern Vermont by the state reached his partners, visions reappeared of another generous dividend. Dungan wrote Haupt nine days after the passage of the bill that ". . . before the knowledge of the thing reaches the public it will be much easier to negotiate for anything connected with our affairs, and as it cannot take much to release the Troy & Greenfield bonds which are bound with other securities of our own, I have concluded to ask you how much I might

⁴Haupt to Cartwright, April 2, 1860, Haupt Papers, Box 2.

⁵Ibid.; Cartwright was in a difficult position in the partnership. He was a member of the firm of Dungan, Cartwright & Company, and as such, received a steady stream of letters from his partners in this firm trying to persuade him to pressure Haupt for dividends. Cartwright was also a close personal friend of Haupt, and Haupt steadily put pressure on Cartwright to restrain the other partners. Cartwright managed not to offend either side and maintain friendship with both.

consider at my disposal of the proceeds of these bonds [Southern Vermont] to release the T. & G. bonds and return them to you."⁶ Dungan for the first time admitted that he still had the Troy & Greenfield bonds lent by Haupt in August 1856, and if Haupt wanted them returned, he had to divide up the profits of the Southern Vermont.

Steever was even quicker than Dungan, writing on April 11, "thanks to an all gracious-Providence and your indomitable energy and perseverance for the success which has attended your efforts before the legislature, . . . I never faltered in my belief that the Hoosac Tunnel enterprise would in the end be O.K. provided your life should be spared. . . ."⁷ All the flattery and offers of deals were merely the prelude for another meeting called by the partners and held at Troy on May 6.

The Troy meeting was a virtual repetition of the meeting at Greenfield in January. The same accusations and charges were brought up and discussed and the same proposals advanced. Under the terms of the 1858 contract between the partners, any profits realized on the Southern Vermont were

⁶Charles Dungan to Haupt, April 13, 1860, cited in Chapman, "Haupt," XVI, p. 10. The partners were more than ever certain that Haupt could afford a dividend for he received £6,800 of the state bonds on March 1. Payments by the State Treasurer to T. & G. R.R. Co., July 12, 1861, Haupt Papers, Box 18.

⁷Steever to Haupt, April 11, 1860, cited in Chapman, "Haupt," XVI, p. 11.

to be divided among Dungan, Steever, and Galbraith in the same proportion as the profits realized on the Troy & Greenfield. Of any remaining profit, Cartwright was to get one-third and Haupt the rest. But the agreement also stipulated that the profits were to be used "for carrying on the work on the Troy & Greenfield Railroad as long as they may be required for that purpose."⁸ Although no profits had been realized on the Troy & Greenfield, there had been a dividend, and that set the precedent for declaring another on the Southern Vermont. Haupt, disgusted by the entire affair, consented to pay his four partners a total of \$47,814.15 in principal and \$3,147.75 in interest, a total of \$50,961.90.⁹ This dividend alone amounted to more than these men had originally invested in the partnership. At the very time Haupt was declaring the dividend, he owed the state \$32,000 for the sinking fund. Haupt had sent his note for that amount in April, but the state treasurer

⁸Copy of the 1858 contract, cited in Chapman, "Haupt," XVI, p. 11.

⁹It is unclear how much of the \$130,961.90 promised in the two dividends was ever paid. Chapman totaled Haupt's personal ledger and arrived at a figure of \$59,297.19 by January 21, 1861. Chapman, "Haupt," XVI, p. 23; Haupt summarized his payments to his partners in ledgers in the back of "Short History of Hoosac," pp. 13-18 and breaking these down through January 21, 1861, Haupt lists \$25,354.52 to D.C. & Co., \$20,115.86 to Henry Cartwright, and \$12,925.58 to William Galbraith for a total of \$58,395.96, or very close to Chapman's total. It appears that Haupt only paid Cartwright \$12,119.04 of the \$20,000 that was authorized at the January 1860 meeting.

refused to accept it and also refused to return it.¹⁰ Also, despite Dungan's promises to the contrary, the Troy & Greenfield bonds were not returned to Haupt or the company. However, Haupt did make good his promise to cease keeping the books of the firm. Steever and Cartwright took the company books with them from Troy, and Haupt never saw them again until the death of Cartwright in 1875.¹¹

The real friction between the partners was over the appropriation of money by Haupt to repay his personal debts. These accusations had an element of truth, for Haupt had used some of the money to repay his debts; but he viewed these allocations as repayment for services rendered to the firm, and not as compensation for debts.¹² Haupt felt that

¹⁰Haupt to Cartwright, April 2, 1860, Haupt Papers, Box 2.

¹¹Haupt retained a personal ledger which shows the last entry dated January 21, 1861. Chapman, "Haupt," XVI, p. 23.

¹²The total private debt of the partnership on January 21, 1861, stood at \$324,630.19, of which about \$250,000 was owed to Haupt. Through the above date the firm had paid \$155,268.71 to private creditors. Assuming that all other debts were repaid except Haupt's, there still remains \$55,638.52 that could have been applied to his personal debt. Actually, Haupt appropriated more than this amount for he repaid the note held by Spangler and his associates for \$60,000 with interest and also the \$33,000 loan from Derbyshire. Chapman's summary of Haupt ledger, Chapman, "Haupt," XVI, p. 23; "I do not ask and never have asked that any of the losses sustained by my connection with the tunnel should be made good but I claim the right, as the funds have been procured by me, to appropriate from time to time portions of what is due to me for salary or otherwise sufficient to keep the Sheriff off my back in Massachusetts." Haupt to Cartwright, May 28, 1860, Haupt Papers, Box 2. "I

since his partners had contributed less than \$50,000 to the concern and performed very little actual work, they were not entitled to cash rewards. Dungan, Steever, and Galbraith saw it otherwise. Galbraith had originally invested \$10,000 in Serrell & Company and parlayed this into ten percent of H. Haupt & Company and expected his full share of any available money. Dungan and Steever felt that although they were unable to raise all the money agreed to in the original contract, they still provided capital when it was most needed and saved the firm. Haupt's argument that their failure before the 1857 panic destroyed his credit was irrelevant to them, for if Dungan, Cartwright & Company had not invested in 1856, Haupt would not have had any credit in 1857.¹³ Cartwright was in a special position, since he worked full time on the tunnel and was salaried.¹⁴

have nominally a salary of \$4,000 per year, but as I suppose my partners will charge me with all the items for which I cannot produce vouchers, as well as the items I have written to charge, it results that I have been serving the firm for years for nothing and paying them \$5,000 per year or more for the privilege." Haupt to Cartwright, June 29, 1860, Haupt Papers, Box 2.

¹³Haupt to Cartwright, May 28, 1860, Haupt Papers, Box 2; ". . . If my partners think it is my duty to work for nothing, I think it is theirs quite as much, let Dungan and Galbraith go to work and do something even if it is at the eleventh hour. . . . I trust that if I ever should have partners again, they will be capable of dividing not only the assets but also the labors and responsibilities." Haupt to Cartwright, June 29, 1860, Haupt Papers, Box 2.

¹⁴Cartwright's salary was deferred until January 1, 1861, when he received \$22,169.43 in back wages from September 11, 1856. Haupt, "Short History of Hoosac," p. 20.

There were valid arguments on both sides, but Haupt recognized that he was the sole financial loser of the concern,¹⁵ not only in Massachusetts, but in Pennsylvania as well.¹⁶ As such he had no obligation to make dividend payments when construction was suffering from a lack of working capital. His declaration of the dividends ran contrary to his normal clear-headed, pragmatic methods and demonstrated his basic flaw as a businessman, which was a curious inability to be distrustful of business associates no matter how hard they pressed him. In this case Haupt probably thought that by satisfying their demands they would stop pestering him for verification of expenditures in his books, something he was unable to do because of his antiquated single-entry bookkeeping that was rarely up to date. But these are not isolated instances of Haupt's inability to stand up to grasping partners, for Haupt declared still another dividend later to these same men, and the problem plagued Haupt years later with other partners in other ventures.

After declaring the second dividend, Haupt's pessimism deepened. "I took the most unfortunate step in my life," he wrote Cartwright, "in consenting to become a partner in this concern, and . . . I cannot leave

¹⁵"Haupt is the only one who has sustained an actual loss . . . the others have all drawn out more than their cash advances. . . ." Ibid., p. 9.

¹⁶Haupt to Cartwright, May 28, 1860, Haupt Papers, Box 2.

it until it is on its legs, but when that hour arrives . . . I expect to terminate a partnership, the labors and responsibilities of which, have been so unequally distributed."¹⁷

Despite the internal squabbles in the company, construction continued. Haupt, however, was apprehensive over the choice by the governor of a state engineer to inspect the work.¹⁸ By the middle of May it was rumored that Governor Banks would choose Colonel Ezra Lincoln, a man unknown to Haupt, for the position. Haupt was uncertain of what course he should take. "Confirmation will probably be refused if I say so-- . . . as it would make Banks an enemy I cannot do it, but I do not like the nomination."¹⁹ Lincoln was appointed and despite Haupt's misgivings, the two men worked well together. The usual means of carrying on the work was that Haupt submitted to Lincoln a monthly list of probable construction costs and Lincoln checked the estimates which became the basis for apportioning the state loan in monthly payments.²⁰

¹⁷ Ibid.; Haupt suggested that the dispute between the partners be mediated by Derbyshire, and two men of his choosing, and all agree to be bound by the decision. This idea was not accepted. Haupt to Cartwright, June 29, 1860, Haupt Papers, Box 2.

¹⁸ Haupt to Cartwright, May 8, 1860, Haupt Papers, Box 2.

¹⁹ Haupt to Cartwright, May 12, 1860, Haupt Papers, Box 2.

²⁰ Chapman, "Haupt," XVIII, p. 1.

In 1860, Haupt turned his attention for the first time to the actual development and engineering of the rock drill. A prototype of the drill was tried for the first time on May 2 in the shop without spectacular results. "Its greatest defect is . . . that the drill cannot strike in the same place," Haupt wrote Cartwright.²¹ Two months later Stuart Gwynn stated that he had finally perfected the machine: "I do not hesitate to say, the Hoosac can be tunneled by machinery, and we have got the machine to do it."²² Haupt traveled between Greenfield and Springfield to experiment with the drill, but progress was slow. Throughout the summer and fall of 1860 alterations were made on the machine.²³ All progress ceased, however, when the Globe Machine Works, where the drill was being constructed, burned to the ground on October 6. "The burning of the Globe Works will be a loss of \$2,500 and three months time. We must bear the loss for the present. . . . I must advance all the money required or everything must stop."²⁴ Haupt left the construction of a new drill to Gwynn and did

²¹Haupt to Cartwright, May 2, 1860, Haupt Papers, Box 2.

²²Gwynn to Anna Cecilia Haupt, June 25, 1860, Haupt Papers, Box 2.

²³Haupt to Cartwright, July 21, 1860, Haupt Papers, Box 2; Perkins Willard to Haupt, August 4, 1860, Haupt Papers, Box 2.

²⁴Haupt to Cartwright, October 12, 1860, cited in Chapman, "Haupt," XV, p. 5.

not take an active interest again until March of the following year.

In July 1860, Governor Banks informed Haupt that he and his council were coming to the tunnel to inspect the work. Haupt wrote Cartwright that in advance of the visit ". . . things should be put in good shape, the water should be drained off and the track improved so that the visitors can be taken in on a car," but if not possible, the track should be covered with boards so the visitors could walk into the tunnel.²⁵ The inspection took place on August 2. Haupt wrote Cartwright, "I had a fine opportunity of explaining everything to Banks. . . . Lincoln drove and I talked." An hour before the rest of the party arrived Haupt and the governor came to Haupt's house where "the children had hung flags in the trees which seemed to please the Governor." After the inspection tour and dinner, Banks addressed the people of Greenfield, expressing ". . . his surprise and gratification [and] committing himself to the tunnel up to the hub. . . ." The evening was concluded by a ten-minute talk by Haupt.²⁶ The favorable impression made on Banks and Lincoln paid off, for on October 8, 1860, Haupt received £18,000 of the state bonds under the

²⁵Haupt to Cartwright, July 25, 1860, Haupt Papers, Box 2.

²⁶Haupt to Cartwright, August 3, 1860, Haupt Papers, Box 2.

amendment of 1860.²⁷

The work continued and by the second week in December progress on the Troy & Greenfield was sufficient to apply for another state payment. Haupt went to Boston to ask Lincoln to examine the work and verify its quality and found the state engineer very sick and threatening to resign. Lincoln sent his assistant, Stevenson, to inspect the road and he reported it met all specifications. However, Lincoln was adamant in his decision to resign and did not want to sign the certificates releasing the bonds. This created a potentially dangerous situation for Haupt since Banks was going out of office in January and the views of the incoming governor, John A. Andrew, toward the tunnel were unknown. The steps Haupt took to get Stevenson appointed immediately demonstrated that he could be as clever as some people claimed.

His first step was to write a letter of resignation for Lincoln which suggested Stevenson as a successor, and Haupt carried it to Banks at breakfast on December 12. Banks accepted Stevenson and turned his name into the governor's council that same morning, while Haupt lobbied among the council members to get an unopposed confirmation, which was done. Haupt then went to the secretary of state's office and had a commission drawn up dated December 12 and

²⁷Payments by State Treasurer to T. & G. R.R. Co., July 12, 1861, Haupt Papers, Box 18.

sent it by messenger to Banks for his signature. The estimate for the state loan was signed the same day by Stevenson and given to the governor that evening. Banks refused to sign the estimate since it was dated the same day as the engineer's commission and it would be impossible to show that Stevenson had inspected the work. Haupt suggested an explanatory certificate from Lincoln, and when Banks concurred, Haupt had Lincoln sign a blank piece of paper and Haupt filled in the explanation.²⁸ This sufficed, and Haupt prepared to receive £26,500 on December 13.²⁹ This two-day appointment, estimation, and receipt of the bonds did Haupt much more harm than good. It furnished ammunition for his enemies who were trying to show Haupt was working closely with the state authorities to bilk the state treasury.³⁰ Furthermore, the market conditions were very bad in December for bond sales, and the payroll Haupt planned to meet with the bonds had to be met by a private loan.³¹

²⁸Haupt to Cartwright, December 13, 1860, Haupt Papers, Box 2.

²⁹The bonds were credited to Haupt on December 12, but he did not receive them until the next day. Payments by State Treasurer to T. & G. R.R. Co., July 12, 1861, Haupt Papers, Box 18.

³⁰It also angered the governor-elect, Andrew, who wished to make the appointment in January when he took office.

³¹The "market does not permit sales." Haupt to Cartwright, January 5, 1861, Haupt Papers, Box 3.

The December delivery of state bonds was quickly followed by another on January 5, when Haupt received £7,500. However, the market was so depressed that no sales were possible.³² On January 10 Haupt was able to write Cartwright that he ". . . made the acquaintance of Governor Andrew and had a good talk, established friendly relations with the new Treasurer and smoothed the road for the future. . . ."³³ Thinking his relations secure on the political front, Haupt returned to Greenfield, where four days later he received a telegram from Ezra Lincoln telling him to return to Boston for "I fear some trouble in Boston but do not know what."³⁴ Haupt obeyed and quickly found that things were not all well. "The plot thickens. Gov. Andrew has sent a note to Stevenson requesting him to resign. . . . The Gov. is particularly mad at Banks & Lincoln and seeks to vent his spite on Stevenson. . . ." Haupt also found himself under attack around the capital: "my position as a member of the firm, while at the same time acting as engineer and director of the Company exposes me to constant suspicion and I am more than ever convinced that I can be

³²Payments by State Treasurer to T. & G. R.R. Co., July 12, 1861, Haupt Papers, Box 18; Haupt to Cartwright, January 5, 1861, Haupt Papers, Box 3.

³³"I think this days operations will pay." Haupt to Cartwright, January 10, 1861, Haupt Papers, Box 3.

³⁴Haupt to Cartwright, January 14, 1861, Haupt Papers, Box 3.

more useful to the concern out of the firm than in it. . . . I will try to make Andrew understand me even if I have been unsuccessful in similar attempts with my associates."³⁵

Andrew refused to meet personally with Haupt, consequently he wrote to the governor recounting his activities on the contract and explaining that "I am not a very scrupulous observer of the rules of etiquette but when anything is to be done seek to accomplish it in the most direct manner possible." Haupt emphasized that he had no interest in the profits of the enterprise and recounted the entire history of the tunneling contract, including the "newspaper articles almost daily, in which the term knave & swindler were applied to me. . . ." Haupt sought to convince Andrew that there was no understanding between Stevenson and himself to swindle the state and placed the blame for such rumors on his enemies. "I think that I deserve better treatment at the hands of the people of Massachusetts than I have received. . . . I have too much pride to be willing to fail. My reputation is too deeply involved to permit me to abandon the enterprise, otherwise I should

³⁵"My influence in this city will be more potent if I can convince people that I am not working for my own individual interest." Haupt to Cartwright, January 17, 1861, Haupt Papers, Box 3; Andrew was angry at Banks because Banks broke tradition and delivered an elaborate valedictory which covered the important points of the rebellion and ". . . took nearly all the wind out of Governor Andrew's sails. . . ." Haupt, Reminiscences, xxxiin.

have long since retired in disgust and indignation."³⁶

Haupt's letter did nothing to sway the governor. Andrew denied that he had been approached by enemies of Haupt and the tunnel or that he had ". . . any preoccupation of mind against the Hoosac tunnel enterprise. . . ."³⁷ What really rankled Andrew was the method used in the appointment of Stevenson: "it is clear on the face of it that the appointment of Mr. Stevenson made as it was & when it was, ought to have been resigned to me. . . . and I ought to be free, perfectly free from all persuasions, even free entirely to appoint one personally known to me, . . ."³⁸ Haupt gained a reprieve when the governor's council refused to allow Stevenson's removal on the basis that his appointment was for one year and did not expire until June 6, 1861.

³⁶"First then, I will inform you (because it seems to be absolutely necessary to make myself understood) that I have not, never have and never will have any personal pecuniary interest in any profits that may be realized in building the T. & G. Rail Road & Hoosac Tunnel. I never engaged in the contract for the purpose of making money." Haupt to Governor John A. Andrew, January 18, 1861, Haupt Papers, Box 3.

³⁷Copy, Andrew to Haupt, January 20, 1861, Haupt Papers, Box 3; Andrew was also taking another measure to hinder the tunnel. When Banks left office he had signed the certificate for the next delivery of bonds but had neglected to sign the accompanying papers. When it was brought to his attention, his term had already expired and he felt it would be illegal to sign. Andrew then refused to sign the necessary papers, but was overruled by his council and the bonds were delivered. Haupt received the bonds February 18. Chapman, "Haupt," XIII-XIV, p. 1.; Haupt, Reminiscences, xxiii.

³⁸Copy, Andrew to Haupt, January 20, 1861, Haupt Papers, Box 3.

After that date the governor was perfectly free to appoint whomever he wished.³⁹ The rumor reached Haupt that "William S. Whitwell, former Chief Eng. of the Boston Water Works is the Governor's man. I have not much of an opinion of him for our interests. If he holds us to a high standard of masonry & mechanical work our margin of profit may be very quickly absorbed. Under these circumstances I look to the future or have reason to do so with much anxiety, but I am learning to take troubles ahead more coolly than formerly."⁴⁰

While troubles were mounting at the state capital, Haupt continued bickering with his partners, particularly Dungan, who regularly wrote to Cartwright accusing Haupt of dishonesty and concealment of funds.⁴¹ Cartwright passed the letters on to Haupt who chafed at the accusations and replied that ". . . these feelings impel me to prefer separation from the concern, rather than witness so much uneasiness, distrust & dissatisfaction amongst the members of it."⁴² "I know that I am sensitive and impulsive but I

³⁹Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 39.

⁴⁰Haupt to Cartwright, February 4, 1861, Haupt Papers, Box 3.

⁴¹Haupt to Cartwright, December 15, 1860, Haupt Papers, Box 2.

⁴²Haupt, Troy, New York, to Cartwright, December 19, 1860, Haupt Papers, Box 2; "Whatever Mr. Dungan's opinions may be I believe there are some people in the world yet who give me credit for honesty." Haupt to Cartwright, December 17, 1860, Haupt Papers, Box 2.

know that I seek at all times to do right and will never knowingly depart a hair's breath from a bee line."⁴³ To allay some of the distrust, Haupt agreed to allow an examination of the firm's books by Steever and Cartwright and accept whatever figure the two men agreed upon as the amount owed by the partnership to him.⁴⁴ In early January, before the examination was underway, the partners again asked Haupt to declare another dividend, arguing that the company had received \$231,000 in state bonds since the last dividend was declared in May 1860, and that Dungan, Cartwright & Company was in severe financial straits. Haupt once again unwisely consented and declared a \$60,000 dividend, with Dungan, Steever and Cartwright each receiving \$13,026.18 and Galbraith getting \$20,921.45. The dividend was paid half in cash and half in notes.⁴⁵

This dividend, which was to be the last, still did not free Haupt from his partners' badgering. Steever went

⁴³"I am for some reasons not sorry for the letter of D., it shows that he has entertained the opinion that we have all along had good times, plenty of money, good living at Boston etc--. . . ." Haupt to Cartwright, December 21, 1860, Haupt Papers, Box 2.

⁴⁴"I am intensely anxious to . . . have the examination over so as to be secure against further insult on this point." Haupt to Cartwright, December 21, 1860, Haupt Papers, Box 3.

⁴⁵Chapman, "Haupt," XVI, p. 23. Three months later Haupt wrote, "I reprove myself with my weakness in not being able to say no to my partners when I felt that it was not safe to make a dividend." Haupt to Cartwright, April 19, 1861, Haupt Papers, Box 3.

to work on the account books and whittled the debt of the company to Haupt down from \$80,000 to a point where Haupt owed the company \$18,000. Haupt remarked to Cartwright that "the thing is absurd, but while it is hanging over me I feel unfit for business or anything else. . . ." ⁴⁶ Cartwright was making his examination independently of Steever and found the firm in debt to Haupt, but not by over \$100,000 as claimed by Haupt. ⁴⁷ A large part of March and April were devoted to the wrangling over the books. Haupt had ". . . no notion of the system which shows large balances in favor of all the other members of the firm and against me, particularly if these balance sheets are to be public property." ⁴⁸ Derbyshire heard that Haupt owed the firm \$18,000, and when Haupt approached him in April for an advance of \$4,000, he was refused. This was the first time Derbyshire had refused Haupt a loan. ⁴⁹ Dungan continued to write Haupt urging ". . . further advances and expressing

⁴⁶" . . . Every time the results have been figured up there has [sic] been wide differences. In June \$80,000 in my favor. In Jan/61 \$80,000 against me at 8 a.m., \$53,000 in my favor at 10 a.m., now \$18,000 as Steever says against me." Haupt to Cartwright, February 14, 1861, Haupt Papers, Box 3.

⁴⁷Haupt to Cartwright, March 2, 1861, Haupt Papers, Box 3.

⁴⁸Haupt to Cartwright, March 19, 1861, Haupt Papers, Box 3.

⁴⁹Haupt to Cartwright, April 19, 1861, Haupt Papers, Box 3.

the belief that I could do it. I do not see where on earth the money is to come from to carry us to May."⁵⁰ The net result of all the examinations and rancor was that nobody knew exactly where anybody stood financially and that Haupt resigned as treasurer and general manager of the partnership and appointed Cartwright to take over the duties starting April 1.⁵¹

Haupt wasted valuable time in these disputes that he should have spent on other matters. By the middle of January 1861, the whole thirty miles of the road between Greenfield and the tunnel was under contract and about half of it was graded. Haupt expected all the rails to be laid and operations commenced by the end of 1861.⁵² Haupt had to admit in February that because of disputes with his partners, "I have not seen the work or been on the road for

⁵⁰Haupt to Cartwright, March 19, 1861, Haupt Papers, Box 3; Haupt was still behind in his payments to the state sinking fund. "I must try to get estimates from State Treasurer, we have no funds to pay him as you are no doubt aware." Haupt to Cartwright, March 29, 1861, Haupt Papers, Box 3.

⁵¹Cartwright's books now showed the firm owed Haupt about \$60,000, while Haupt calculated it owed him over \$100,000. Haupt to Cartwright, March 27, 1861, Haupt Papers, Box 3; Haupt also spent March and April trying to save what properties he still owned in Pennsylvania. In March he wrote, "private affairs in Phila. in bad condition and getting worse and worse; may not be able to save anything." Haupt to Cartwright, March 19, 1861, Haupt Papers, Box 3.

⁵²Haupt to Andrew, January 18, 1861, Haupt Papers, Box 3.

nearly 3 months."⁵³ This inattention was costly to Haupt for on April 18, a bridge across the Green River, designed by Haupt and built by a subcontractor, fell while being tested, with the loss of one man's life. Since Haupt had a reputation as one of the foremost bridge experts in the country, his enemies instantly seized their opportunity of exposing not only his incompetence but also the shoddy quality of his work. Haupt contended that the bridge fell because of a flaw in an iron casting and that he intended to replace the defective part to guard against future accidents.⁵⁴ His opponents had other ideas. Harris wrote Moses Kimball, a member of the legislature, that "Haupt is the smartest man of his kind I ever knew. . . . a piece of cast iron is to be substituted by wrought iron--a feature of the plan which had no more to do with the falling of the bridge than any other parts of it had." The cry went out for the ". . . removal of this rickety structure . . ." and the concurrent removal of Haupt from the contract.⁵⁵

⁵³Haupt to Cartwright, February 14, 1861, Haupt Papers, Box 3.

⁵⁴Haupt to Andrew, April 21, 1861, cited in Chapman, "Haupt," XIII-XIV, pp. 11-14.

⁵⁵Moses Kimball headed a legislative committee in 1860 which investigated whether Haupt had actually earned the state bonds. He originally maintained a position of neutrality in the tunnel dispute, but under the blandishments of Harris, slowly moved to an anti-Haupt position. Daniel Harris to Moses Kimball, May 1, 1861, Troy & Greenfield Papers.

Haupt wrote Governor Andrew a letter explaining the cause of the accident and outlined the steps he intended to take to insure there would be no repetition.⁵⁶ Andrew passed the letter on to Kimball, who termed it "specious."⁵⁷ Kimball explained to Andrew that the Troy & Greenfield was a sham, that Haupt did not follow the outlines of the contract for construction work, and that the bridge ". . . as a whole is unsuitable for the purpose for which it is intended." Kimball, paraphrasing Harris' letter to him, concluded that Haupt ". . . is smart, uncommonly smart and I think tricky. I fear such men."⁵⁸ This negative character sketch and advice weighed heavily in Andrew's evaluation of what course to take in reference to the tunnel, for Andrew had earlier admitted that "I am no engineer--no railroad expert--and am not skilled at all in most matters in that connection."⁵⁹ Neither was Kimball, but that made little difference.

⁵⁶Haupt to Andrew, April 21, 1861, cited in Chapman, "Haupt," XIII-XIV, pp. 11-14.

⁵⁷Moses Kimball to Andrew, May 8, 1861, cited in Chapman, "Haupt," XIII-XIV, pp. 15-17.

⁵⁸"You, of course, understand that while the loan reads to 'the Troy and Greenfield Railroad Corporation,' that Haupt & Co. by virtue of their contract are de facto the Rail Road Company and draw all the State payments. . . . Mr. Haupt being the engineer of the road does just what he pleases. . . . I think I can read men and I tell you frankly that I have no faith in Mr. Haupt." Ibid.

⁵⁹Copy, Andrew to Haupt, January 20, 1861, Haupt Papers, Box 3.

As the political winds began to shift against Haupt, the work continued on the grading and track laying. Stevenson continued to make monthly estimates, and the state bonds continued to be received on time. During the first six months of 1861, Haupt received \$170,550.80 in four monthly installments.⁶⁰ Despite a regular income from the state, the contractors were still hard pressed for money. On April 29, 1861, Haupt calculated the total cost of the railroad yet to be completed to the tunnel, ". . . without allowances for incidentals, salaries, engineering, etc. is \$334,763. We are yet to receive . . . \$381,030--leaving a balance of \$46,267. The bills payable, exclusive of the \$30,000 to members of the firm, in my books, exclusive of yours, \$44,004.59." These accounts left Haupt a possible profit of only \$2,262.42. "There is no margin in these figures, and it is impossible to say how much the actual cost of the work may be increased beyond the present estimates."⁶¹ Haupt, as usual, was attempting to carry on the work with insufficient funds.

A bright spot was the progress being made on the drill. A finished machine was expected about April 1, and Haupt was drawing up a list of the equipment necessary for

⁶⁰ Payments by State Treasurer to T. & G. R.R. Co., July 12, 1861, Haupt Papers, Box 18.

⁶¹ Haupt to Cartwright, April 29, 1861, cited in Chapman, "Haupt," XI, pp. 10-11.

the introduction of the drills into the tunnel.⁶² By May a finished drill had not yet been delivered, but Haupt was still optimistic, "we are not yet ready to take drills to the tunnel but are preparing. I will order exhaust fan and ventilating apparatus immediately."⁶³ Finally, success was achieved on June 27 when the apparatus drilled ten and one-half inches in eleven minutes with one point.⁶⁴ Unfortunately, just at the moment of success the whole enterprise was on the point of collapse, and the drill was never given a trial in the tunnel.

The beginning of Haupt's final troubles appeared when he was called away from Massachusetts. On April 29, Haupt received an appointment from Simon Cameron, the Secretary of War, to the board of visitors at West Point that required him to attend the annual examination in June.⁶⁵ The board was composed of some of the leading political figures in the country, John J. Crittenden of Kentucky, Andrew Johnson of Tennessee, David Davis of Illinois,

⁶²Haupt to Cartwright, March 9, 1861, cited in Chapman, "Haupt," XV, p. 6.

⁶³Herman Haupt to Lewis M. Haupt, May 28, 1861, cited in Chapman, "Haupt," XV, p. 7.

⁶⁴Haupt to Cartwright, June 27, 1861, Haupt Papers, Box 3.

⁶⁵Appointment of Herman Haupt to the Board of Visitors at West Point, April 29, 1861, Adamson Collection.

James G. Blaine of Maine, and others.⁶⁶ Haupt accepted the appointment on May 7, and prepared to leave for West Point on June 5.⁶⁷ He was given a letter of introduction by General John Wool, introducing him as Colonel Haupt. Haupt explained the origin of the title to his son: "As I am not fond of military titles I asked the General some time ago to please drop it, but he replied that if I was not a Colonel of the United States Corps of Engineers, no one could be found more worthy of the honor and he still persists in the use of the title, so it appears that I must submit to the affliction and be called Colonel everywhere."⁶⁸

When the board met at West Point, Haupt was elected secretary and was made responsible for the final report, which, contrary to tradition, bristled with an indictment of the academy's policy of reinstating students found scholastically deficient. Haupt attributed the mediocrity of the students to Cameron's policy of allowing poor students to return and graduate with their class. He recommended in

⁶⁶John Bell, from Nashville, Tennessee, had also been appointed but after the outbreak of the Civil War he and all other representatives from the South declined their appointments, with the exception of Andrew Johnson. List of Visitors to West Point, Record Group 94, 1861 (National Archives, Washington, D.C.).

⁶⁷Haupt to Simon Cameron, Secretary of War, May 7, 1861, Record Group 94 (National Archives, Washington, D.C.); Herman Haupt to Lewis M. Haupt, May 28, 1861, Haupt Papers, Box 3.

⁶⁸Herman Haupt to Lewis M. Haupt, May 28, 1861, Haupt Papers, Box 3.

his published report that the initiative for reinstating cadets be taken from the Secretary of War and placed in a board of academic supervisors to remove political interference. Cameron, irked by the tone of the report, coldly informed Haupt that his opinions were irrelevant since they were formed by experiences of more than thirty years ago, and took no steps toward investigating the charges.⁶⁹

While Haupt was absent at West Point, Governor Andrew exercised his prerogative and dismissed the state engineer, Stevenson, and appointed in his place William W. Whitwell. Rumors of the appointment had been circulating for months, but the first intimation of the actual move was not received by Haupt until June 1.⁷⁰ During Haupt's absence, Whitwell sent out an assistant to estimate the value of the work to be done as a basis for the monthly payment. The assistant's estimate was even higher than the figure

⁶⁹One of the students on Haupt's list, who contributed to the "mediocrity" of the cadet corps, was George A. Custer, described by the superintendent of the academy as "deficient in Ethics, ordinary aptitude, rather studious, very inattentive, 95 demerits in 6 months, recommended for discharge in January 1861, low in class." However, Custer was allowed to advance and graduate with his class. U.S. Congress, Senate, Report of the Board of Visitors, 1861, 37th Cong., 1st. Sess., 1861, pp. 29-36, 40-43; Samuel Richey Kamm, "The Civil War Career of Thomas A. Scott" (unpublished Ph.D. dissertation, Dept. of History, University of Pennsylvania, 1940), p. 48.

⁷⁰Hugh W. Greene, a member of the governor's council, wrote Haupt, "if you are interested in the person to be Engineer of the T&G R.R. after the expiration of Mr. Stevenson's term, and object to W. S. Whitwell, . . . you had better come down at once. Telegraph to me if you desire delay." Hugh W. Greene to Haupt, June 1, 1861, Haupt Papers, Box 3.

claimed by Haupt or Stevenson. Whitwell then decided to visit the work and "took a dose of Harris at Springfield on the way." Whitwell compiled his estimate, which again was higher than Stevenson's. Whitwell returned to Boston and disregarding his own estimate, cut the payment to Haupt by about \$40,000, which led Haupt to calculate that ". . . when further reduced by sinking funds will leave us very little."⁷¹

Haupt was now in the position which he feared when the 1860 amendment to the loan act was passed. The state engineer, while not unfriendly, was not inclined to interpret the loan act with any liberality toward the contractors, whatever the circumstances. Haupt was certain what the cut in estimates would bring, particularly if the July estimate was also cut. He wrote Cartwright, preparing him for the worst, ". . . all operations of any description must be immediately suspended and all hands discharged,

⁷¹"Harley was there when Whitwell footed up his estimate . . . [and] Whitwell seemed much mortified that Harley had seen [the] footing and put the papers in his pocket, saying that this was a case in which judgement must be exercised, which meant that having predetermined the result, the figures must be made to bring it out." Haupt to Cartwright, June 26, 1861, Haupt Papers, Box 3; In June the liabilities of H. Haupt & Company for work on the railroad east of the tunnel stood at \$268,000, of which \$78,000 had been spent for items not covered under the loan act. The remaining \$190,500, was the amount that Lincoln and Stevenson had approved. When Whitwell cut the estimate by \$97,000 (June and July's total) he in effect added this to the \$78,000 not covered under the act and gave Haupt a debt of \$175,000 to be paid without state aid. It was impossible for Haupt to raise the money, leading to immediate suspension.

this is an unavoidable necessity--but it must not be known until after the estimate is secured."⁷² Haupt kept an eye to the future resumption of the work and wanted to prepare public opinion for the suspension. "The best plan will be to put down wages so low on the 1st that the men will all strike, then pay them off and let them go-- . . . I think all will be well in the end, but financial matters are such that we would have stopped in August at any rate, we are now furnished with a strong justification."⁷³

Haupt was not dismayed with the prospect of an immediate suspension. He probably hoped a temporary stoppage of the work would eventually result in a more favorable contract with the state, which had invested so heavily in the tunnel that it could ill afford to permit the work to languish. At the very least, perhaps political pressure could be brought to neutralize Governor Andrew's opposition. Haupt wrote Cartwright, "the suspension will do us good. I shall be very busy preparing for an investigation."⁷⁴ Haupt was tired of carrying the work along on a month to month basis, perpetually in debt, abused in the public press and in private by his partners, and of exerting

⁷²Haupt to Cartwright, June 26, 1861, Haupt Papers, Box 3.

⁷³Ibid.

⁷⁴Haupt to Cartwright, June 27, 1861, Haupt Papers, Box 3.

political influence to try and insure completion of the contract. Nevertheless, he wanted the work resumed as quickly as possible if better financial or political arrangements could be secured. To this end he thought ". . . it will be necessary to insert a proper paragraph in the papers to give a right direction to public sentiment."⁷⁵

The suspension of the work on July 1, after Whitwell cut the estimate for the second time, brought forth charges and countercharges in all the state newspapers. Haupt published newspaper articles and a broadside reciting the sequence of state actions that brought on suspension,⁷⁶ but the bulk of all the argument centered around whether the construction of the railroad met the standards of the loan act, which vaguely stated that the work must be completed ". . . in the most substantial and workmanlike manner, . . ."⁷⁷ Whitwell accused the contractors of building a flimsy road with weak bridges, using trestle-work where filled cuts should have been used, using no ballast, and building cheap slopes of only one to one, or forty-five

⁷⁵Ibid.

⁷⁶Unidentified newspaper clippings, Haupt scrapbook, pp. 17, 23, 29, 31, 37, 39, 45, 53, 59, 106; Suspension of Work on Hoosac Tunnel. Communication from H. Haupt, Chief Engineer, 1861, Troy & Greenfield Papers.

⁷⁷Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 37.

degrees, which were too steep but cheaper to construct because less fill was necessary.⁷⁸ Haupt argued that the road was unfinished and citing the Pennsylvania Railroad as an example, sought to show that all railroads spent several years after opening, finishing up the details by using their own employees and work trains, thereby saving money.⁷⁹ The whole dispute was futile because stipulations of the loan act were vague enough to support either argument. Whitwell's estimates were simply the opinion of one interpretation of that act while other engineers who examined the work could cite, and did, conflicting estimates. The important fact was that Haupt needed a liberal interpretation of the act to sustain work since he had let contracts to subcontractors at prices based upon the estimates of Lincoln and Stevenson and could not afford to make up the difference between the original estimates and those

⁷⁸Communication from H. Haupt to D. N. Carpenter Esq., President of the Troy & Greenfield R.R. Company, In Regard to the Suspension of Operations on the Hoosac Tunnel (Deerfield: n.p., 1861), pp. 10-13. Hereinafter cited as Communication from H. Haupt to D. N. Carpenter.

⁷⁹Ibid.; The best explanation of the principles followed by Haupt in the construction of the Troy & Greenfield is found in Communication of H. Haupt, Chief Engineer, explanatory of the principles which have governed the location of the Troy & Greenfield Rail Road. To the President and Directors of the Troy and Greenfield Rail Road Company, n.d., Troy & Greenfield Papers.

of Whitwell.⁸⁰ To make matters worse, the state threw several million dollars worth of six percent bonds on the London market which made the five percents of the loan act unmarketable.⁸¹ Under the circumstances, Haupt could do nothing but wait for the governor's council to appoint a committee of three to inspect the work and Whitwell's estimates. Although Haupt hoped for resumption of the work, he turned his attention during this interim to other fields.

The Civil War was well under way by July 1861, and Haupt heard that the position of assistant secretary of war was to be created. He was interested in securing it and went to Washington in the middle of July to talk to Secretary of War Cameron. Haupt spent several days besieging Cameron's office and home along with a horde of other favor seekers, but was unable to secure an interview. Haupt then wrote a long letter to Cameron explaining his visit and gave it to Tom Scott, who was in charge of military railroads and telegraphs, to deliver to Cameron.⁸² Haupt had

⁸⁰Haupt had let the work to subcontractors based on the original estimates, making Whitwell's changes, in effect, retroactive.

⁸¹"The Civil War added greatly to our difficulties. State bonds were depreciated more than twenty per cent. Instead of realizing one hundred and ten on sterling fives, we were compelled to take federal currency and sell as low as eighty eight; . . ." Communication from H. Haupt to D. N. Carpenter, Esq., p. 4.

⁸²Herman Haupt, Washington, D.C., to Anna Cecilia Haupt, July 18, 1861, Haupt Papers, Box 3.

little chance of getting the position because of his criticism of Cameron's West Point policies, but despite the ill feeling between the men, Haupt returned home July 20, with some hopes of still receiving the appointment. While in Washington he received an alternative offer when he was ". . . asked to take [the] head of engineering dept. with Fremont's army of the west," but he declined.⁸³ Haupt probably wasn't surprised that he was not selected as the assistant secretary of war, but he was astonished when Tom Scott received the post on August 1.⁸⁴

Haupt's rebuff in Washington caused him to seek other outlets for his energies. He became interested in the substitution of flax and hemp for cotton in the manufacture of cloth to fulfill the needs of the textile industry,

⁸³"Nothing special to report so far as Washington matters are concerned." Haupt's son, Alexander James Derbyshire, was critically ill in July, probably with the measles, but he recovered. Haupt to Cartwright, July 22, 1861, Haupt Papers, Box 3.

⁸⁴Haupt's belief that Scott betrayed him in Washington led to cool relations between Thomson, Scott, and Haupt. Haupt wrote Thomson, "to both of you I have returned your Hoosac loan, principle and interest. Yet I am and have been satisfied for some time that I have lost the friendship of both, and Scott would rather oppose my success and defeat my efforts to obtain a position in government service than render the assistance that former relations and his obligations to me in the earlier period of his connection with the Penna. R.R. would lead me to expect." Haupt to Thomson, December 9, 1861, Haupt Papers, Box 3; Haupt had also asked Cameron for an appointment to the Point for his son, Lewis, in 1861, but had been refused. Kamm, "The Civil War Career of Thomas A. Scott," pp. 47-48.

faced with a severe cotton shortage because of the war. A native of Massachusetts patented a machine that supposedly could card flax into a workable material, and one of the managers of this patent was Horatio Allen, a member of the Novelty Works which had constructed the huge boring machine for Serrell and Haupt.⁸⁵ Haupt became interested in the process through Allen, and tried to make contact with the Russian Czar through a Colonel Ivanowsky. Haupt wrote to the colonel ". . . about flax cotton and sent him some more specimens. I suggested to him that if the Emperor would pay all my expenses and put up machinery for trial I might be tempted to visit Russia next spring provided that if the enterprise proved successful I should receive a compensation for a certain price per pound on all that was manufactured."⁸⁶ If Russia was not interested, then perhaps other countries might be. "I also received a very encouraging letter from Mexico-- . . . the firm of Martiny del Rio are [sic] very interested in the matter of fibrilia which they consider of immense importance to that country. It is not impossible, if tunnel matters remain suspended for some time, that I may go to Europe or Mexico or somewhere

⁸⁵Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 33.

⁸⁶Herman Haupt to Anna Cecilia Haupt, September 1, 1861, Haupt Papers, Box 3; Herman Haupt to Anna Cecilia Haupt, July 20, 1861, Haupt Papers, Box 3.

else" ⁸⁷ However, other matters intervened, and Haupt did not follow up his contacts with interested parties in other countries.

At the same time, a first-class political storm was raging about Governor Andrew and engineer Whitwell. On July 22, the executive committee of the Troy & Greenfield petitioned the governor and executive council to investigate the change of the construction estimates by Whitwell. ⁸⁸ The executive council delegated a committee of three to examine the matter and the investigation commenced on August 13. The committee heard engineers and witnesses from both sides, although Whitwell appeared only reluctantly and refused to call supporting testimony. ⁸⁹ On September 3, the committee issued a report favorable to Haupt, recommending that the governor ask Whitwell to revise his estimates to correspond with the estimates of the previous state engineers. ⁹⁰ When the report was issued, Haupt wrote to his friend and creditor, John Griswold, "I sent you a report of the Investigating Committee, with the testimony, from which you will conclude that we had the best of it so far as the

⁸⁷Herman Haupt to Anna Cecilia Haupt, September 1, 1861, Haupt Papers, Box 3.

⁸⁸Petition of the Executive Committee of the Troy & Greenfield Rail Road, July 22, 1861, Troy & Greenfield Papers.

⁸⁹Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 39.

⁹⁰Statement of Haupt to Special Committee, 1864,
p. 24.

Committee is concerned. The Governor, however, has not acted."⁹¹ And the governor would not act. Andrew decided to investigate the matter himself, and took a party of engineers, all invited by Whitwell, with no notice to the contractors, to inspect the railroad. After the inspection, Andrew called a council meeting and on September 24, the meeting was held with twenty-eight experts in attendance, who predictably upheld the actions taken by Whitwell. Andrew would not even allow the adverse findings of his own council entered into the record, leading that body to petition Andrew on December 26, to enter into the record that seven out of eight of the council members disagreed with his course. Andrew refused to receive the petition.⁹²

While the state tried to untangle the politics of the suspension, another complicating factor entered the picture. Haupt was indebted to John Griswold, of Troy, New York, for almost \$100,000, of which \$76,000 was for iron delivered for the construction of the road east of the tunnel and the rest for loans Griswold made to Haupt to pay subcontractors. If the suspension continued, Haupt had no prospects of repaying Griswold, so Haupt suggested to the board of directors of the Troy & Greenfield that

⁹¹Haupt to Griswold, September 3, 1861, cited in Chapman, "Haupt," XVIII, p. 6.

⁹²Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 39; Statement of Haupt to Special Committee, 1864, pp. 24-25.

Griswold be allowed to protect his advances by putting a lien on the iron already delivered, until he was paid by somebody. The board complied and Griswold secured the attachment.⁹³ The lien compromised the title to the road in the event the state decided to foreclose its mortgage. This development had been foreseen in Boston, for when the news of the lien leaked out, Haupt wrote Cartwright that "the State Treasurer is in a stew about those attachments on the rail road iron. He wrote to me to know the exact position of affairs and whether the state security had been impaired. If he could make anything out of my answer he is smarter than I take him to be. I told him I was not versed in the law and could not decide the question."⁹⁴

The only possibility for a resumption of the work by Haupt lay in favorable action by the state legislature in 1862. In anticipation of a protracted stay in Boston, Haupt decided to move his entire family to the city.⁹⁵ He rented a large, rambling, three-story frame house in Cambridge, opposite poet Henry Wadsworth Longfellow's home.⁹⁶

⁹³Chapman, "Haupt," XIX, p. 1.

⁹⁴Haupt, Boston, to Cartwright, October 25, 1861, Haupt Papers, Box 3.

⁹⁵"I am now almost all my time in that city and am making arrangements to move to Cambridge." Haupt to Cartwright, November 30, 1861, Haupt Papers, Box 3.

⁹⁶"The house was terribly out of order but it is now nearly habitable and will make a very comfortable and pleasant residence. . . ." Haupt to Cartwright, December 7, 1861, Haupt Papers, Box 3.

Because of Haupt's precarious financial position, he made arrangements with the landlord to renovate portions of the house in lieu of rental payments.⁹⁷ On January 1, Haupt wrote to other creditors whose notes were due during that month, informing them he was ". . . entirely unable to pay principal or interest, and know not when I will be in any better condition, the note can be renewed or protested at the pleasure of the holder."⁹⁸ "If no favorable action is taken by the Legislature, I will probably be forced into insolvency, and may not be able to work through, even if the State shall pay what is due me."⁹⁹

When the legislature met January 3, 1862, Haupt was preparing a resumé of the total expenditures of H. Haupt & Company on the work for inclusion in a pamphlet he was preparing for their defense before a joint special committee of the legislature investigating the suspension. The pamphlet appeared on January 31 and reviewed the history of the

⁹⁷"The agreement required me to expend \$600 as a consideration for lease from Nov 19, 1861, to Apl. 1, 1864, 28 months, equivalent to \$278 57/100 per annum. The necessary expenditures to render the property comfortably habitable, amounted to \$963.09. . . ." Haupt, Cambridge, to D. J. Wyman, landlord, June 1, 1863, in Herman Haupt Letterbook, November 1, 1862-August 18, 1863, in Lewis M. Haupt Papers (Library of Congress, Washington, D.C.), p. 355. Hereinafter cited as Haupt Letterbook, 1862-63.

⁹⁸Haupt to Spangler, January 1, 1862, cited in Chapman, "Haupt," XII, p. 12.

⁹⁹Haupt to R. H. Dull, subcontractor, January 1, 1862, cited in Chapman, "Haupt," XII, p. 12.

tunnel struggle, the financial problems, the present state of the bond market, and the differences of opinion between Haupt and Whitwell. Haupt answered charges of poor construction with supporting testimony from engineers, Henry Campbell, Haupt's former employer, Benjamin H. Latrobe, of the Baltimore and Ohio Railroad, and W. H. Wilson, chief engineer of the Pennsylvania Railroad. All three testified that the bridges, trestlework, and slopes were equal in quality to those found on their own respective roads and other roads of the region. In rebuttal, Whitwell produced testimony before the committee from three prominent engineers from New England who gave diametrically opposed opinions.¹⁰⁰

Haupt urged that the state should pay the liabilities incurred in carrying on the work and finish the railroad between Greenfield and the tunnel. Haupt also suggested that his drill be introduced into the tunnel to expedite boring and that no central shaft be dug. To aid in prosecuting the work, Haupt offered his services free of charge. ". . . I am not so ready to give up all direction of control. I have some professional pride in wishing to

¹⁰⁰Commonwealth of Massachusetts, Statements Presented to the Joint Committee on Troy and Greenfield Railroad Company by Messrs. Haupt and Harris and by the several engineers concerning the Troy and Greenfield Railroad Company, House of Representatives No. 235, April 1862, passim.

see my plans carried out, . . ."¹⁰¹

On February 26, Haupt wrote to Charles Stevens, chairman of the joint legislative committee, giving an estimate of the total expenses incurred in the construction of the railroad and 4,250 feet of the projected 24,416-foot tunnel, derived from books kept by Cartwright.

"Recapitulation of Expenses.	
Western Division of Rail Road	\$134,410
West end of tunnel	94,488
Shaft	36,814
East end of tunnel	130,401
Eastern Division of Railroad	808,092
Engineering	22,550
	<u>\$1,226,755</u>
Receipts	
From State	\$725,388
From Towns	125,100
From rent etc.	14,306
	<u>\$864,794</u>
Deficit	\$361,961
This deficit is thus itemized	
Balances due sub-contractors and others	
for work, materials, loans, Etc.	\$116,104
Bills payable do do	50,880
	<u>\$166,984</u>
Balances due members of firm	194,537
	<u>\$361,521"</u>

¹⁰¹Haupt proposed establishing an impartial commission through an elaborate process of drawing lots and allowing the contractors and the state to add and delete names. This commission would examine Haupt's drill, attend tests, and decide whether the state would adopt it for further tunneling. Ibid., p. 19; ". . . I am too poor to carry it any further; but poor as I am, Massachusetts is not rich enough to buy my self-respect. If the Legislature should, after paying the liabilities appropriate \$200,000 to place me individually in as good a financial position as when I first undertook to assist in building the tunnel, I might be deeply grateful . . . but not one dollar would I touch unless able to return a full equivalent. Charity is something that I am not yet prepared to accept." Ibid., p. 35.

The joint legislative committee accepted this statement but did not accept Haupt's offer to examine the company's books.¹⁰² On March 21, 1862, the joint committee issued its report and found that Whitwell did not have the authority to change the estimates, for the quality of the road had been determined by the first state engineer and

¹⁰²"I am willing to meet the committee or sub-committee with Mr. Cartwright and give all the time they may desire to explanations, but I am not willing to put my books into the hands nor under the control of other parties." Haupt to Charles Stevens, February 26, 1862, Haupt Papers, Box 3; Length of tunnel in Sandstrom, History of Tunnelling, p. 153; Cartwright's financial statement as presented to the committee is inaccurate in several respects. Under the heading of receipts there is no mention of the \$200,000 received from the state for the Southern Vermont Railroad. The total of \$725,388 listed as received from the state includes only the \$114,500 in state bonds, equal to \$508,838 at an exchange of \$4.444, and the \$216,500 paid to the railroad in federal currency between May 8 and July 12, 1861, on the basis of the state engineer's estimates. It is impossible to ascertain whether the construction costs of the Southern Vermont are included under the entry of expenses of the "Western Division of the Rail Road." Cartwright broke the costs of the western division down into component parts in January 1861, after that portion of the road was completed, but did not mention the Southern Vermont. If the construction costs were not included, then Cartwright should have added \$100,000 to the receipts, for that is approximately the profit made on that portion of the road. This cuts the deficit to \$261,961. Also in Cartwright's breakdown of expenses there is no mention of the \$190,961.90 appropriated as dividends to the partners. Undoubtedly this was scattered under "incidentals" and "engineering and supervision," two categories which totaled \$117,028.11. It is not known how much of the three dividends was paid, but they probably amounted to less than \$100,000. Statement of Disbursements and Liabilities of H. Haupt & Co. in construction of Troy & Greenfield Rail Road and Hoosac Tunnel, as Compiled from the a/c books of the firm, January 21, 1861, Haupt Papers, Box 18. In a financial statement of 1864, "incidentals" and "engineering and supervision" was reduced to \$111,983.11. Chapman, "Haupt," XII, p. 16.

Whitwell could not make what amounted to retroactive changes. The committee exonerated Haupt from charges of shoddy work and placed the blame for suspension on Whitwell. The body felt that if state aid was not continued the state would be abrogating the good faith of the towns, individuals, and corporations along the route which had subscribed to the work on the expectation of state aid. If the work was abandoned, these subscriptions would have to be repaid from state funds. Furthermore, the state was now responsible for paying the interest on the state bonds, but if the road could be completed and leased, the lease payments would satisfy this interest. The committee found no sufficient reason for removing the work from the hands of the railroad company and the contractors and recommended that the state not assume the responsibility for construction.¹⁰³

The same committee then reported a bill giving Haupt more than he ever desired. It provided for an appropriation of \$150,000 to pay his outstanding claims, for resumption of monthly payments secured by the estimates of the state engineer, and for cancellation of the provision

¹⁰³Unidentified newspaper clipping, n.d., Haupt scrapbook, pp. 106-111; Boston Commercial Bulletin, March 29, 1862, Haupt scrapbook, p. 45; Herman Haupt Chapman, "Revised Biography of Herman Haupt," Adamson Collection, 1862, pp. 16-20. This revision lacks chapter numbers and each chapter is paged anew. Chapters will be referred to by the dates encompassed within. Hereinafter cited as Chapman, "Haupt, revised."

that the railroad pay ten percent into the state sinking fund. Moreover, it stipulated that all disputes between the state engineer and the contractors be mediated by the governor and his council.¹⁰⁴

The proposed bill would have given Haupt a better than even chance of completing the contract, providing its provisions were met faithfully and his drilling apparatus proved successful. But he never got the chance to try. Almost coincidental with the committee's recommendations, Frank Bird, a Walpole, Massachusetts, paper manufacturer and a gifted pamphleteer, published a widely disseminated and effectively written diatribe condemning Haupt for excessive profits, shoddy work, and fraud.¹⁰⁵ Bird wrote, "I am forced by the developments of this winter to believe, . . . that Herman Haupt, under professions of philanthropy and devotion to the public good, is perverting this enterprise to his own selfish purposes; that, instead of aiding it, he has stood, and still stands, in the way of its completion, and that the road to success will not be entered upon until his false character is exposed and the enterprise rescued from his control."¹⁰⁶

¹⁰⁴Chapman, "Haupt, revised," 1862, pp. 20-21.

¹⁰⁵Kirkland, Men, Cities and Transportation, I, 407.

¹⁰⁶Bird was enraged by the exoneration of Haupt by the joint special committee of the 1862 legislature. Although Bird did not have access to H. Haupt & Company's books, he "estimated" the probable cost of construction for the railroad and tunnel to be only \$768,250. Balanced

The public sentiment against Haupt created by Bird, the anti-Haupt newspaper articles over a six-year period, and the background work of Harris and Kimball during the winter of 1861-1862, combined to convince Andrew that he could not support both Haupt and the tunnel. Andrew served notice of his decision to the legislature by announcing that he would veto any bill that retained Haupt or appropriated any money to pay his debts.¹⁰⁷ Pro-tunnel members

against this, Bird calculated the receipts from state and towns as \$925,389, concluding that Haupt had received a tidy profit of \$282,639. Ibid., p. 24; Bird was as adroit in character assassination as he was in estimating construction costs. He said of Haupt: "I had never known him; but was prepared from impressions of him derived from personal friends in the tunnel region, to think very favorably of him. I expected to meet a man of capacity and breadth of character, I found an adroit and unscrupulous pleader; I expected to meet an enthusiast, I found a calculating, selfish speculator; I looked for a Cheeryble, I found a Uriah Heep. Plausible and insinuating towards those whom he desired to use, servile and sycophantic towards those who have the power to forward or thwart his schemes, arrogant and insolent towards those whom he can neither humbug nor buy, Shylock and Pecksniff by turns, he has succeeded in exerting an influence to which neither his character or ability entitles him." Ibid., p. 37; Bird did not meet Haupt personally until the legislative session of 1866, when the two men became fast friends. Bird wrote to Haupt in 1867 that "I would willingly sacrifice ten years of my life to see you reinstated on this great work. You know that it is not from selfish motives but from pure love and admiration of your genius." Frank Bird to Haupt, February 21, 1867, Haupt Papers, Box 6; Haupt found Bird quite different from what he imagined also. He wrote his wife, "I think Bird is a man of strong mind and good judgement and like him better as the acquaintance improves. He is now of much service to me, but if the Lord had not put Christian feelings in my heart, I could not have forgiven him." Herman Haupt to Anna Cecilia Haupt, May 5, 1866, cited in Chapman, "Haupt," XXIV, p. 16.

¹⁰⁷ Statement of Haupt to Special Committee, 1864,
p. 26.

of the legislature called an evening meeting with Haupt in early April and explained that the governor would allow the tunnel to proceed only under the direction of state commissioners. Haupt was advised ". . . that it would be better for us to submit than resist; that at some future time justice would be done to us; that our prospects would not be improved by letting the work continue suspended; that we could not carry a bill over a veto, . . ." ¹⁰⁸ The members of the legislature agreed to extend to Haupt the right of redemption until ten years after the tunnel was completed and opened, to include a \$175,000 appropriation in the bill to pay off liabilities to his subcontractors, and to execute no lease by the state on the road east of the tunnel exceeding six years. The bill provided for three state commissioners to examine and recommend the best procedures for resumption of the work, either by contract or directly under the charge of the state. ¹⁰⁹ Haupt had no choice but to accept the proposals of his legislative friends, although the final bill did nothing to improve his financial

¹⁰⁸ Ibid.; The legislators told Haupt to "let the State get her foot in it, . . . justice to you may be delayed, but it will come in the end." Herman Haupt, Final Settlement of the Claim of H. Haupt & Co. against the State of Massachusetts. The Liberality of "A Generous and Opulent Commonwealth" Exhibited. (Boston: Wright & Potter, Printers, 1869), p. 7. Hereinafter cited as Haupt, Final Settlement of Claim of H. Haupt & Co.

¹⁰⁹ Statement of Haupt to Special Committee, 1864, pp. 26-27.

circumstances.¹¹⁰

Haupt had doggedly pursued the completion of the contract, even when the odds seemed overwhelmingly against him, because he had to prove to himself and others that he was capable of carrying the work through. In leaving the Pennsylvania Railroad to undertake the digging of the Hoosac, Haupt retained the managerial role for which he was eminently suited, but he also assumed an entrepreneurial role for which he was not as well fitted by reason of his lack of experience, financial contacts, and wealth.

Throughout the Hoosac contract, Haupt confronted his greatest difficulties in borrowing money for carrying on the work. He was almost always able to borrow small amounts, up to \$5,000 to meet the monthly expenses, but he was never able to borrow a sum substantial enough to retrieve his personal capital advances or to put the work on a stable footing. His circle of financial contacts was largely confined to business associates on the Pennsylvania Railroad, who though possessed of comfortable means, lacked the requisite idle capital to risk in a speculative venture, such as the Hoosac. Any returns on invested capital were years in the future and depended upon a multitude of intangibles: the cooperation of the state authorities and maintenance of friendly relations with the legislature, the

¹¹⁰"For myself, I do not ask for compensation. What I most desire is, to defend my reputation. . . ." Ibid., p. 27.

ability to raise money from private sources to carry the work through to the state installments, an ability to work with or through the Troy & Greenfield, which was itself a helpless spectator, the ability to overcome the technical problems associated with tunneling, the overcoming of intra-state sectional problems in Massachusetts which saw the Western Railroad and Daniel Harris at the vanguard, and finally the mobilization of sympathetic public opinion in the region along the route to contribute not only money, but enough political leverage to insure non-interference with the project. Nowhere is the speculative nature of the contract more starkly visible than in the inability of Haupt to find reliable partners to invest in the work and take an active role in its prosecution. Haupt was able to find as partners men who had nothing to offer and everything to gain, but no respectable contracting or investing combination could be induced to touch the contract.

Haupt was largely able to cope with these problems despite his limited capital, but he floundered on problems of his own making. His allocation of almost \$200,000, or about ten percent of his total capital, as dividends to non-producing partners was inexcusable when the very progress of the work was threatened by a capital shortage. Pressures for this mis-allocation arose from Haupt's book-keeping, consisting of a single-entry ledger only fitfully brought up to date, which was woefully inadequate to handle

the business of the concern. Most important, in the short-run, was Haupt's inability to elicit support from Governor Andrew in 1861. All the antagonisms against both Haupt and the tunnel built up during his legislative battles from 1856 through 1861, finally coalesced in Andrew's administration, and Haupt lost his influence with the executive branch of the state government. He found it impossible to battle both his partners and the state administration, and seeing a decline in his financial situation, he decided to capitulate.

Haupt thought the suspension would be merely temporary, only as long as it would take him to prod some favorable action from the legislature, before which he had had such signal success in the past. In this he was mistaken, for a portion of his past successes had resulted from a friendly, or at worst a neutral, executive department, and without this advantage, the legislature was largely impotent.

The bill taking the work out of Haupt's hands passed the legislature April 28, 1862, and the work remained suspended pending the outcome of the findings of the state commissioners, but Haupt was not in Massachusetts to witness his defeat.¹¹¹ Obeying a summons from Edwin M. Stanton, who had replaced Cameron as Secretary of War, Haupt had packed his bags a week earlier and gone to war.

¹¹¹Chapman, "Haupt, revised," 1862, p. 27.

THAT MAN HAUPT: A BIOGRAPHY OF HERMAN HAUPT
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CHAPTER X

HAUPT GOES TO WAR

On April 22, 1862, when Stanton telegraphed Haupt to come to Washington, the Civil War was already a year old and it was obviously not going well for the North. During 1861 the only major battle in the East, fought at Bull Run, resulted in such a disastrous defeat for the Union forces in the Eastern theater that President Lincoln removed General Irvin McDowell, the commander, and appointed General George B. McClellan as general-in-chief of all the armies in an attempt to instill in the army some basic discipline and training.¹ McClellan took command in July 1861, and remained inactive for so long he seemed bent on training to the exclusion of fighting. Finally Lincoln, the following January, exasperated and pressured by Congress and public opinion, commanded McClellan to start operations against Richmond with the Army of the Potomac. McClellan delayed, not getting his troops underway until March 17 for the advance on Richmond up the Peninsula between the James and York Rivers.² Just before McClellan embarked, Lincoln,

¹T. Harry Williams, Lincoln and His Generals (New York: Alfred A. Knopf, 1963), p. 24.

²Ibid., pp. 62, 75.

fearing for the safety of Washington while the Army of the Potomac was in Virginia, relieved McClellan from supreme command and reorganized the army into four corps, retaining McDowell's corps of 30,000 men for the defense of the capital.³ McClellan protested that Washington was perfectly safe from attack as long as Richmond was threatened by his 112,000 men on the Peninsula, and that he needed McDowell for his advance on the Confederate capital. While Lincoln, Stanton, and McClellan argued over the disposition of McDowell's corps, McClellan laid siege to Yorktown on the southeastern tip of the Peninsula from April 5 through May 4, wasting a month of valuable time. Finally, in the middle of April, Lincoln and Stanton agreed to release McDowell's corps from its defensive positions around Washington and send it to the aid of McClellan by an overland route. McClellan kept his right wing north of the Chickahominy River to make contact with McDowell when he arrived.⁴

Stanton began preparations for McDowell's movement by telegraphing Haupt's old foe, Daniel Harris, to come to Washington and take command of the reconstruction of the Richmond, Fredericksburg and Potomac Railroad between Aquia Creek, southwest of Washington, and Fredericksburg. Stanton

³J. G. Randall and David Donald, The Civil War and Reconstruction (Boston: D. C. Heath and Company, 1961), p. 210.

⁴Williams, Lincoln and His Generals, pp. 81-94.

planned for McDowell's corps to advance along the line of this railroad and depend upon it for supplies.⁵

Harris came to Washington and after listening to the duties of the assignment, stated that ". . . he should be glad to help the government, but he must go home and decide," whether he would accept the position.⁶ Stanton did not have the time to wait for Harris to rearrange his plans and called Haupt for the job. Haupt left Boston on Wednesday, April 23, and on the following day met with Stanton, who asked him to report to McDowell and inspect the condition of the railroad and then make an immediate decision on whether he would accept the job.⁷ Friday morning, before reporting to McDowell, Haupt wrote to Stanton that if the state of affairs on the railroad ". . . appear to be such as imperatively to require my personal attention, it will be given [and] I would expect to continue only so long as public exigencies demanded it."⁸ He

⁵The job was initially offered to Amasa Stone, who declined for reasons of ill health and recommended Harris. Henry M. Burt (ed.), Memorial Tributes to Daniel L. Harris With Biography and Extracts From His Journal and Letters (Springfield, Mass.: Printed for the Family for Private Presentation, 1880), p. 229.

⁶Ibid., p. 230.

⁷"From his knowledge of my operations in Penna. he is satisfied that I am just the person he wants in this crisis." Haupt to Cartwright, April 24, 1862, Haupt Papers, Box 3.

⁸Haupt to Edwin Stanton, April 25, 1862; Haupt, Reminiscences, p. 44.

expected to complete the work in one month and then return to Massachusetts.⁹

Haupt was one of many civilians called to Washington to lend their technical skills to the war effort. It quickly became obvious at the outbreak of the war that the army engineering corps, which devoted its energies primarily to the design and construction of fortifications and coastal defenses, was not trained to operate such recent innovations as the telegraphs and railroads. To maintain and operate these facilities the Secretary of War improvised a paramilitary command and dispensed army rank to civilians selected for their achievements in civilian life. In this way the War Department managed to attract the services of men like Tom Scott and Andrew Carnegie, able administrators on the Pennsylvania Railroad, Daniel McCallum, ex-superintendent of the New York & Erie Railroad, and Haupt.

These men often did not work harmoniously with the military commanders they served. Haupt, who was nominally a colonel and later a general, refused to wear a uniform and instead stumped about the countryside clad in a battered slouch hat, jackboots, and a long nondescript coat. Despite his unorthodox appearance and civilian status, he never shirked from issuing orders to his commanding general and

⁹"He wants me for one month, and then if I am not willing to stay longer I can go." Haupt to Cartwright, April 24, 1862, Haupt Papers, Box 3.

insisting that they be obeyed. The civilians brought to the army little regard for military precedents, but rather faced any given problem with a half a dozen improvisations and worked until they found one that answered. This tendency to ignore military rigidity often created friction but it also insured that the armed services acquired civilian technical skills in the shortest period of time.

Thus, Haupt was in the fortunate position of being badly needed, and he was therefore able to stipulate the conditions under which he would accept the job. Haupt wrote Stanton that "I have no military or political aspirations, and am particularly adverse to wearing the uniform; would prefer to perform the duties required without military rank, if possible, but if rank is essential as a means to aid in the performance of duty, I must acquiesce." He continued, "pay I do not require or care about. If I take the position you have so kindly offered, it will be with the understanding that I can return whenever, in my opinion, my services can be dispensed with, and that I will perform no duties on the Sabbath unless necessity imperatively requires it, and of that necessity I must be the judge, so far as may be consistent with military subordination."¹⁰ Haupt wished to remain free to return to Massachusetts to protect his interests in the Hoosac and to achieve this

¹⁰Haupt to Stanton, April 25, 1862; Haupt, Reminiscences, p. 44.

freedom he was willing to forego receipt of a salary which would bind him to the service. Stanton accepted Haupt's conditions and appointed him on April 27, an additional aide-de-camp on the staff of General McDowell with the rank of colonel.¹¹

Back in Massachusetts, Harris finally decided that he would accept the job and telegraphed his acceptance, but received no answer from Stanton. Harris wrote to Stanton and again was unanswered. He finally came to Washington and was told by Stanton that Haupt had accepted the job but that Harris might become Haupt's assistant. Harris decided instantly that he did not want that offer.¹²

Haupt entered his new duties to fight for the maintenance of the Union and not to eradicate slavery. Prior to the war he had been occupied with his own political problems in Massachusetts and had paid little attention to the great political debates that were convulsing the country.¹³ Haupt had been in the South, which was more than many of the extremists could claim, and he had some sympathy with the problems of that region. He had employed slaves on the survey of the Southern Railroad and while he

¹¹Haupt's unsubscribed appointment, April 27, 1862, Adamson Collection.

¹²Memorial Tributes to Daniel L. Harris, p. 230.

¹³Haupt's correspondence contains no reference to the war until he sought the job of assistant secretary of war.

was not in favor of the institution, he felt that it could be eradicated without recourse to war.¹⁴ Haupt wrote Cartwright, "I find it necessary to . . . try to convince people that this war is the result of misunderstanding."¹⁵ It was not until the southern states seceded that Haupt felt war to be necessary to uphold the union, and it was in an attempt to shorten the war that Haupt took the job of trying to get McDowell's forces to Richmond for the final blow of the conflict.

On Friday, April 25, Haupt took a small steamer provided for him down the Potomac looking for McDowell. Haupt found him on a steamer near Belle Plain, and the two men had a cordial meeting, McDowell briefing Haupt on the condition of the Fredericksburg railroad.¹⁶ Haupt returned to Washington the next day and met with Stanton to develop a plan of supply for the reconstruction of the railroad and to procure the necessary materials. It took three days to

¹⁴Mrs. Susan Haupt Adamson to author, May 7, 1968.

¹⁵Haupt to Cartwright, May 4, 1862, in Unpublished Correspondence of Brigadier General Herman Haupt, Chief of Military Railways, July 1861 to September 1862 (Library of Congress, Washington, D.C.), p. 5, hereinafter cited as Unpublished Correspondence. This typewritten manuscript was probably compiled by Herman Haupt Chapman, but the correspondence contained within is not located in the Haupt Papers at Yale.

¹⁶Haupt maintained the most intimate relationship with McDowell of all the commanding officers above him during the war. McDowell had been a plebe at West Point during Haupt's fourth year and Haupt had extended McDowell protection from hazing. Haupt, Reminiscences, p. 45.

make the arrangements, and on Tuesday Haupt, along with Daniel Stone, who was to be in charge of the bridges, reported to Aquia Creek to start work. The scene at Aquia Creek was one of desolation. The wharf was totally destroyed, three miles of rails had been torn up and carried away, the ties burned, and the roadbed, which had been used by the cavalry, had turned into a quagmire from the constant rain, which started before Haupt had arrived and plagued him for the next three weeks.¹⁷

Haupt started work immediately. He selected the best officers he could locate in McDowell's corps, made them assistant engineers, and sent them with their men into the woods to cut ties for the railbed. Since none of the troops allotted to him had any experience in building railroads, Haupt devised a simple instrument made of sticks for levelling the railbed.¹⁸ This work continued all day April 29, and by evening McDowell reported to Stanton that "Colonel Haupt is fast at work, and will relieve me

¹⁷Ibid., pp. 45-46; Journal of events in the commands of General Irvin McDowell, U.S. Army, March 10-June 22, 1862. Kept in the office of the assistant adjutant general's office, McDowell's headquarters, War of the Rebellion . . . the Official Records of the Union and Confederate Armies, Ser. 1, LI, pt 1, pp. 71-75, mentions only three days of dry weather during Haupt's reconstruction of the Fredericksburg Railroad. Hereinafter cited as Official Records; unless otherwise noted, all citations are to Ser. 1.

¹⁸Haupt to Stanton, May 25, 1862, Haupt, Reminiscences, p. 46.

greatly."¹⁹ When night came, Haupt wrote that he ". . . threw out a drag net and raked in all the lanterns to be found, organized gangs and kept on laying track all night. The night was dark and disagreeable, but we unloaded iron by candlelight, put it on cars, hauled it by soldiers to the end of the track, threw it off, loaded on trucks and kept on laying and spiking."²⁰ The work was not without its dangers, as Haupt continued: "we got three men at different times in the river but fished them out. A fourth man is missing, supposed to be drowned."²¹ The night work enabled Haupt to complete all the rail laying by May 2.²² All that remained to complete the line to Fredericksburg was the replacement of the three burned bridges.

On May 3 the first load of bridge timbers was brought up to the 150-foot wide and 30-foot deep chasm over Acakeek Creek. Fifteen working hours later General McDowell rode over the completed bridge in a locomotive. News of the accomplishment reached Washington and brought Haupt a

¹⁹Irvin McDowell to Stanton, April 29, 1862, Official Records, XII, pt. 3.

²⁰Haupt to Cartwright, April 30, 1862, Unpublished Correspondence, p. 3.

²¹Ibid.

²²Haupt would have been done earlier but he faced a shortage of iron. "If the material had not given out, I should have closed the gap . . . three miles in three days from the start. . . . I have not been in bed since I left Washington, slept a little last night on the ground." Ibid.

telegram of congratulations from the assistant secretary of war, Peter H. Watson.²³ Haupt did not rest on his accolades. He felt that ". . . very important results hang upon my efforts just at this time. The advance of the Army of the Rappahannock is impossible until I repair the way and the progress of other divisions (McClellan's) is dependent upon the support and cooperation of this."²⁴

On the evening of May 3, a Saturday, Haupt arrived at Potomac Creek to make plans for the bridge that would span a gorge almost 400 feet long with a maximum height of 80 feet over the water, which Haupt described as ". . . a frightful looking chasm."²⁵ On Sunday morning Haupt assembled his 300 troops and ordered the officers to make a list of all the civilian occupations of the men. Haupt took this list and divided the tasks according to their talents and organized them ". . . into teamsters, choppers, carpenters, mechanics, and laborers, and formed them into squads, each under the charge of a non-commissioned officer, . . ." The squads were then sent to work in competition with one another that ". . . excited considerable

²³Haupt to Stanton, May 24, 1862, Haupt, Reminiscences, p. 46; Peter Watson to Haupt, May 4, 1862, Official Records, LI, pt. 1, p. 599.

²⁴Haupt to Cartwright, May 5, 1862, Unpublished Correspondence, p. 4.

²⁵Ibid.

emulation."²⁶ McDowell posted batteries around the chasm to protect the workers, but at one point some of the troops became fearful and refused to work. "General McDowell ordered them in arrest, to be disarmed and sent in disgrace to the rear; if resistance were made, to be shot. This brought them to, instantly, and they were very humble. I have a very good set here and have infused a very good spirit into them."²⁷ Haupt promised the bridge would be constructed within two weeks but hoped to complete it within one week.

Haupt resorted to several expedients to speed up the construction. All the timber for the bridge was cut from nearby woods, and to hasten transportation of logs to the bridge site he had a wooden tramway built from logs, procured several sets of rollers, ". . . put a rope to the end of the logs, stationed men to pick up the hind rollers and run foreward with them. The plan was fun for the boys, they seemed to think they were running with the machine. . . ."²⁸ Instead of constructing the lower

²⁶Ibid.; Oxen which were used to drag newly cut timber from the woods to the bridge site became known as Haupt's horned cavalry. Haupt, Reminiscences, p. 318.

²⁷" . . . War is here and homesteads are deserted. I feel no fears for my personal safety, even when traveling about on foot and unattended as I generally do. I keep a civil tongue in my head, [and] pay for what I find it necessary to appropriate. . . ." Haupt to Cartwright, May 5, 1862, Unpublished Correspondence, p. 5.

²⁸Ibid., pp. 4-5.

portion of the bridge with trestle-work as was normal, Haupt had the soldiers lay crib work ". . . since many of the men were accustomed to building log houses and were not carpenters, I put them at work which I supposed they were familiar."²⁹ In this manner the bridge rapidly approached completion and despite the fact that very few men would climb the eighty feet of trestlework to work on the top of the bridge, the last trestle was raised and placed in position on May 13. Two additional days were required to lay the road bed and put on the finishing touches. On a rainy Thursday, May 15, the first locomotive was passed over, and on May 19 trains began running on a regular schedule.³⁰ Four days later President Lincoln and members of his cabinet came out to headquarters to meet with General McDowell and view the bridge. Lincoln showed great interest in the structure, and Haupt later heard that upon Lincoln's return to Washington he remarked to members of the war committee that he had "seen the most remarkable structure that human eyes ever rested upon. That man Haupt has built a bridge across Potomac Creek, about 400 feet long and nearly 100 feet high, over which loaded trains are running every hour, and, upon my word, gentlemen, there is nothing in it but beanpoles and corn stalks."³¹ Haupt had

²⁹Haupt, Reminiscences, p. 48.

³⁰Ibid., p. 47.

³¹Ibid., p. 49.

good reason to be proud of his achievement. He had built a bridge using untrained soldiers in a constant rain, entirely from materials cut out of the woods around the creek, in nine working days. The third bridge across the Rappahannock was constructed under the supervision of Stone and was completed by May 19. The whole route was opened for McDowell's advance in only twenty-one days.³²

The route for McDowell to link up his corps with McClellan, who had taken Yorktown and was moving slowly up the Peninsula toward Richmond, was now open. However, Haupt's work was in vain, for McDowell received orders on May 25, the day before he was scheduled to begin his advance, to move his corps instead to Front Royal on the Manassas Gap Railroad to protect Washington from the advance up the Shenandoah Valley by Stonewall Jackson. Jackson defeated General N. P. Banks, the former governor of Massachusetts, at Front Royal on May 23 and again at Winchester on May 25, and Washington was edgy. McDowell was ordered to reach the Valley quickly and destroy Jackson's forces.³³

To supply McDowell's corps by railroad meant the reconstruction of the Orange & Alexandria Railroad from

³²A civil engineer calculated that the bridge contained 34,760 linear feet of timber. Haupt to Stanton, May 25, 1862, *ibid.*, p. 46.

³³Williams, Lincoln and His Generals, p. 98.

Alexandria, south to Manassas and then west across the Manassas Gap Railroad to Front Royal.³⁴ Before Haupt could begin the repair and operation of these railroads, he had to make arrangements to extend his authority over them. The unexpected and rapid rise of railroads for logistical support during wartime had caught the war department without any coherent organization for military railroads, and Haupt's authority was overlapped by that of several other men active within his own and other theaters of command.³⁵

A slow start had been made on the development of a central railroad bureau within the war department as far back as April 1861, when Tom Scott was appointed by Simon Cameron to take charge of the Annapolis and Elk Ridge Railroad, the first military line. Scott's authority extended initially only to this one line, but in the next month he was promoted and put in charge of all government railways and telegraphs. Scott recommended the establishment of a central government bureau to arrange all military transportation over civilian lines and to operate military roads. The plan was not implemented, and when Scott was promoted to assistant secretary of war in August 1861, his position

³⁴George Edgar Turner, Victory Rode the Rails: The Strategic Place of the Railroads in the Civil War (New York: The Bobbs-Merrill Company, Inc., 1953), p. 154.

³⁵Eva Swantner, "Military Railroads during the Civil War," The Military Engineer, XXI (September-October, 1929), 435.

with the railroads and telegraphs was filled by Captain R. F. Morley.³⁶ When Stanton took over the War Department on January 11, 1862, he appointed Daniel C. McCallum, a bridge expert as well as a man of wide railroad experience, as military director and superintendent of railroads. McCallum was given authority ". . . to enter upon, take possession of, hold, and use all railroads, engines, cars, locomotives, [and] equipment . . . that may be required for the transport of troops, ammunition, and military supplies of the United States."³⁷ McCallum was given this wide latitude of authority on February 11, 1862, but within three months Stanton gave both Haupt and Stone clear authority to manage the military railroads in the department of the Rappahannock and report not to McCallum but to the commanding general of the department. Thus McCallum's control was effectively circumscribed.³⁸

McCallum took his loss of authority without complaint and left Haupt free to reconstruct the Fredericksburg Railroad without interference.³⁹ However, when

³⁶Ibid., p. 434.

³⁷Thomas Weber, The Northern Railroads in the Civil War 1861-1865 (New York: King's Crown Press, 1952), p. 135.

³⁸Swantner, "Military Railroads during the Civil War," p. 435.

³⁹McCallum and Haupt came ". . . to a perfect understanding and division of duties which suited us both. McCallum took the office and I took the field." Haupt, Reminiscences, p. 313.

McDowell's orders were changed, and Haupt commenced reconstruction of the Manassas Gap Railroad, Haupt and Stone disagreed over the details of reconstruction, and Haupt discovered that Stone had also been given authority over the railroads within the department of the Rappahannock. Haupt wrote to McDowell on May 26 complaining that Stone's authority relegated Haupt to the position of a mere superintendent of transportation, a task Haupt would not perform, and that Colonel McCallum's authority also interfered with Stanton's orders to Haupt. "There cannot be two co-existent and equal heads in one department. Mr. McCallum is my personal friend. . . . but there is a serious defect in organization which interferes with successful operation."⁴⁰ McDowell sent Haupt's letter to Stanton who two days later issued a general order making Haupt chief of railroad construction and transportation in the department of the Rappahannock.⁴¹ This order solved the jurisdictional dispute between Haupt and Stone but did nothing to relieve the basic problem of whether McCallum was to have effective control over all military railroads. This problem was never solved during Haupt's tenure with the army; and when a conflict between the two men arose, the problem was

⁴⁰Haupt to McDowell, May 26, 1862, Haupt, Reminiscences, p. 54.

⁴¹General Order number 17, May 28, 1862, Haupt, Reminiscences, p. 55; Stanton to Haupt, May 28, 1862, Adamson Collection.

usually referred to Stanton for some temporary arrangement.

On May 26 Haupt returned with his construction corps to Alexandria and commenced the reconstruction of the Manassas Gap Railroad. By May 29, the line was open past Rectorstown, located halfway to Front Royal. Colonel John H. Devereux was superintendent of the Gap Railroad and responsible for operating the completed portions of the line.⁴² This was Haupt's first experience with the actual operation of a railroad under a wartime situation, and he learned many valuable lessons and established many practical precedents that eventually became established policy. The railroad, like many of the captured southern lines, was poorly constructed, having inadequate sidings and facilities. Its most serious defect was a lack of adequate telegraph facilities and it very soon became apparent to Haupt when the trains started operating during the last week in May, that normal peacetime operations using the telegraph could not be effective under wartime conditions. The wire was shared with the military units in the area, making it unavailable for railroad usage much of the time, and in addition was vulnerable to sabotage. But it took several weeks for Haupt to implement a workable solution to the problem of effective operation.⁴³

⁴²Haupt, Reminiscences, p. 56.

⁴³J. H. Devereux, superintendent of the Manassas Gap Railroad, to Haupt, June 3, 1862, ibid., p. 58.

The first week of operation under military direction for the Manassas Gap was a disaster. The road quickly became clogged with standing trains awaiting orders and cars awaiting details to unload them; making matters worse, there was constant interference by military commanders. A paymaster appropriated a boxcar standing in the middle of the main line and set up his office there, refusing to move when Haupt asked him to do so. Haupt was forced to gather a detail of guards and forcibly remove the officer to a nearby house in order to get the trains running.⁴⁴ The road was completed to Front Royal by June 1, but two days later Haupt complained to Devereux that not a pound of supplies was reaching the town due to the confusion on the line.⁴⁵

To bring some order out of the prevailing chaos Haupt issued a general order on June 2 which radically revamped the operation of the railroad. He sharply defined the lines of command, forbidding employees to carry out the operational orders of any officer except McDowell, Devereux, or himself. Operations by telegraph were abandoned and a schedule was drawn up for departure times. If the appointed departure time arrived and no trains were finished loading,

⁴⁴Ibid., p. 56.

⁴⁵McDowell to Stanton, May 31, 1862, Official Records, XIII, pt. 3, p. 298; Devereux to Haupt, June 3, 1862, Haupt, Reminiscences, p. 57.

then ". . . engines must proceed with parts of trains, or without trains." Nobody, ". . . whatever his rank or position, shall have the right to detain a train, or order it to run in advance of schedule time. . . ." To make the new operations effective, the turn around time of the loaded cars had to be reduced to a minimum through prompt unloading at the point of destination and if this was done ". . . a single track road in good order and properly equipped may supply an army of 200,000 men, when, if these conditions were not complied with, the same road would not support 30,000."⁴⁶

Devereux was unable to effect the new changes immediately because of a locomotive shortage and conditions remained intolerable.⁴⁷ On June 4, Stanton took the Orange & Alexandria and the Manassas Gap railroads out of Haupt's control, placing them under the Quartermaster Department and suspended Haupt's general order in an attempt to bring prompt action on the line.⁴⁸ The following day, McDowell pleaded with Stanton to revoke his order, stating that "the failure to get forward supplies is not due to Colonel

⁴⁶General Orders, June 2, 1862, in Military Railroads 1861-67; General Orders, Instructions and Reports (n.p.: no publisher, n.d.), n.p. Volume located in Association of American Railroads Library, Washington, D.C.

⁴⁷There was also a shortage of coal for the engines and although only two locomotives burned coal, they were sorely needed. Devereux to Haupt, June 3, 1862, Haupt, Reminiscences, p. 57.

⁴⁸Official Records, XII, pt. 3, p. 333.

Haupt's management. He is, as you know, one of the best railroad managers in the United States, and I beg to assure you that he is doing more than any other man can do."⁴⁹

Haupt followed with a letter explaining the utter futility of attempting to operate an overcrowded railroad during wartime solely by means of the telegraph.⁵⁰ However, the problem resolved itself when Jackson managed to elude McDowell and escape. McDowell was ordered out of the Valley and spent the first weeks of June moving his army to Manassas, relieving the burden on the Manassas Gap Railroad.⁵¹

During the lull, Haupt set up his headquarters at Alexandria and turned his attention to the formal organization of a full time construction corps. His plan of organization directed that the corps was to consist of officers, enlisted men, and civilians, detailed by orders of the department commander. The enlisted men were formed into squads of ten men, each under the charge of a non-commissioned officer, with a lieutenant in charge of two squads and an overall commander appointed by the commanding general of the department. All men were responsible for tools issued to them and received extra pay for time actually

⁴⁹McDowell to Stanton, June 4, 1862, ibid.

⁵⁰Haupt to Stanton, June 6, 1862, Haupt, Reminiscences, pp. 59-60.

⁵¹Haupt, Reminiscences, p. 63.

spent in construction or other work. Haupt put great emphasis on willingness to work, scheduling breakfast at dawn and emphasizing that "men who are not willing to work, even for 16 hours continuously, when required, are not wanted in the Construction Corps of the Rappahannock, and are requested to leave it. . . ." ⁵² Haupt was also very careful to specify strict rules for the treatment of civilians in occupied territory, stating that "the members of the Construction Corps are not authorized to investigate and decide upon the loyalty of the inhabitants of the country, much less to condemn them as rebels and appropriate their property to themselves. . . . All who are not in arms against the Government are entitled to protection against injury or insult." ⁵³ This was the first attempt made during the Civil War to systematize the functions of the military railroads and provided the basis for the permanent construction corps created later in the war.

The continued inactivity of McDowell's Corps throughout June, while McClellan was engaged in the Peninsula campaign, led Haupt to submit his resignation to Stanton. Haupt considered that the task for which he was summoned to Washington had been fulfilled, and the job of supplying a stationary army could easily be filled by

⁵²Plan of Organization for the Construction Corps of the Department of the Rappahannock, June 11, 1862, Haupt, Reminiscences, pp. 64-65.

⁵³Ibid., p. 65.

anyone. The roads he had reconstructed were now running smoothly, and there was little probability of any new work for his recently organized construction corps. Haupt asked Stanton only for expenses, about \$300, as "I cannot draw pay as Colonel, because I have not complied with the forms and cannot subscribe to the certificates."⁵⁴ Haupt received no reply.

On June 18 McDowell was injured by a fall from his horse and was taken to Washington for recuperation. Haupt visited him on the twentieth, and the two men talked several hours about the state of the war. McDowell was ". . . much annoyed at the abuse he received in the newspapers, but more on his wife's account than his own. It is really outrageous how the friends of McClellan try to censure McDowell for everything, even those in which he has no participation."⁵⁵ McDowell's pessimism was infectious, for Haupt continued, "I am pretty thoroughly disgusted with war matters and management. . . . But it is not in my power to apply the remedy. We did not begin right. We had no head when the war commenced. I do believe if I had been

⁵⁴"All I ask is that cash I have actually paid out since my connection with the service shall be returned to me from the contingent or other fund." The cash, ". . . portions of which have been for supplies used by assistants and foremen, do not much exceed \$300, including traveling expenses." Haupt to Stanton, June 25, 1862, *ibid.*, pp. 66-67.

⁵⁵Herman Haupt to Anna Cecilia Haupt, June 20, 1862, Unpublished Correspondence, p. 9.

appointed Assistant Secretary of War at first, when Scott was given the office, the result might have been different. I might have influenced the plans and saved the wasteful expenditure of millions."⁵⁶ Despite Haupt's disgust over the management of the war, he remained with the army until General John Pope replaced McDowell.

Pope, appointed commander of the Army of the Rappahannock on June 26, considered the military railroad organization unnecessary and placed control of the railroads in his army under the direction of the quartermaster's department.⁵⁷ Haupt tried to have McDowell intercede with Pope to have the organization remain as it was under McDowell, but to no avail. Since Haupt's services were no longer needed, he went to Washington and talked with Peter Watson, the assistant secretary of war, offered his services if needed in the future, and departed for Cambridge.⁵⁸

⁵⁶Haupt was proud of his achievements under McDowell. "All that I have done is approved, and I am sustained by the Secretary of War, and especially by Assistant Secretary Watson, who backs me up in my efforts to reform abuses." Haupt's attention often strayed from railroad matters into other areas. "I am down on grog and have been holding off the liquor smugglers nicely. I heard last week that several barrels of liquor were tied to a sloop under water, carried below Aquia Creek and then wagoned to Fredericksburg. I have taken steps to put a cavalry patrol on each road to search all wagons and seize upon everything, even to the men, if any forbidden articles are carried." Ibid., p. 10.

⁵⁷Williams, Lincoln and His Generals, p. 121; Haupt, Reminiscences, p. 69.

⁵⁸Ibid.; Pope logically held that since railroads transported army supplies, they should be under the direction of the quartermaster department. Unfortunately, the

During Haupt's absence from Massachusetts, three commissioners were appointed by Andrew to ascertain the most feasible method of completing the railroad and tunnel. In June Haupt wrote to Samuel Morse Felton, one of the commissioners, asking that he recommend the adoption of Gwynn's rock drill in the tunnel by future contractors, retain E. L. Childs, the subcontractor on the Green River Bridge which collapsed, and retain Henry Cartwright to oversee the actual work on the tunnel. "For myself I propose to wait until a change of administration will present a hope that justice will be done and then apply to the Legislature for redress."⁵⁹ Haupt pursued these objectives upon his return to Cambridge, writing John W. Brooks, chairman of the commissioners, with essentially the same requests.⁶⁰ Haupt also wanted to settle matters with Gwynn, who had remained in Boston at Haupt's request in the expectation of a quick resumption of the work. By July, Haupt was confident that the report of the commissioners would be delayed, and he requested Gwynn to submit a bill for his services. "It will not add very largely to

personnel of the quartermaster's department had no experience in operating or repairing railroads.

⁵⁹Haupt to Samuel Morse Felton, June 16, 1862, in the Samuel M. Felton Collection (Historical Society of Pennsylvania, Philadelphia, Pennsylvania), hereinafter cited as Samuel M. Felton Collection.

⁶⁰Haupt to John W. Brooks, July 9, 1862, Haupt Papers, Box 3.

the list to put in something for Gwynn and if the commissioners reject it, this will not be our fault."⁶¹ Haupt barely had time to get settled in Cambridge before he left again for Washington to testify for McDowell, who was being interrogated by the Congressional Committee on the Conduct of the War, which was inquiring into charges that Federal generals had protected Rebel property at Front Royal.

Haupt arrived in Washington on July 12 and immediately went to see his friend John Covode, a Congressman and member of the Committee on the Conduct of the War. Covode told Haupt that ". . . General McDowell had been brought before their committee . . . and interrogated as to the condition of things." Haupt wrote that "This was the result of my arrangement. I wanted McDowell's statements made a matter of record and I had written out and given to Covode before I left Washington the questions which should be asked him."⁶²

⁶¹Haupt to Cartwright, July 10, 1862, Haupt Papers, Box 3; Haupt was also having trouble for the first time with one of his children. Twenty-year-old Jacob, Haupt's oldest surviving son, wanted to marry against his parents' wishes. Jacob wrote his mother, "I know how it was with Grandmamma Haupt, if Papa had taken her advice you would never have been Mrs. Haupt. . . . I have not the brains that Papa had at that time, I know that I never will have, yet because I cant [sic] read and wright [sic] well that dont [sic] say that I have none [sic] at all." Jacob Haupt to Anna Cecilia Haupt, July 14, 1862, Haupt Papers, Box 3.

⁶²Herman Haupt to Anna Cecilia Haupt, July 12, 1862, Unpublished Correspondence, p. 9.

On Monday, July 14, the day before Haupt was scheduled to testify before the committee, he visited with McDowell and outlined his thoughts on the management of the war.⁶³ Haupt felt that ". . . McClellan could not move, and from all that we had seen, would not move if he could; that if [he] would let splendid opportunities slip unimproved, he would not be likely to do anything when he had no opportunity."⁶⁴ McClellan had moved his army to Harrison's Landing on the James River after an inconclusive campaign, and Haupt was worried that if the Confederates could succeed in constructing another Merrimac and station it in the James River, McClellan ". . . would be in a very bad fix and his whole army might be lost." Haupt opposed any move by Pope to march overland to join up with McClellan, since a small force could easily contain McClellan while the bulk of Lee's army could destroy Pope.⁶⁵

Haupt testified favorably in behalf of McDowell and remained in Washington for a few more days talking with

⁶³Haupt stated that he testified before the committee on July 14 and characterized the committee as thinking ". . . badly of McClellan's operations and, I think, with good reason." Ibid.; Haupt actually testified on July 15. U.S. Congress, Senate, Report of the Joint Committee on the Conduct of the War, Report No. 108, Vol. 3, 37th Cong., 3d Sess., 1863, p. 427. Hereinafter cited as Report of the Committee on Conduct of the War.

⁶⁴Herman Haupt to Anna Cecilia Haupt, July 15, 1862, Unpublished Correspondence, p. 11.

⁶⁵Ibid.

prominent members of Congress and the military, while attempting to secure another position with the military railroads.⁶⁶ Haupt was rapidly becoming disillusioned on all accounts. "I feel sad for the country. I am now thoroughly convinced since my return that McClellan is utterly incompetent, and I fear that Pope is not much better." Pope had been given command of the combined forces of Fremont, Banks, and McDowell, renamed the Army of Virginia, and on July 14, Pope issued a public address to his army which Haupt characterized as ". . . all bombast, stuff and nonsense, and . . . a virtual declaration of war between him and McClellan, destroying any harmony of action. I should not be surprised if both should be superseded and someone else put over the two."⁶⁷ He was asking Stanton to extend his authority over

⁶⁶Haupt testified before the Committee for about one hour. He was examined only by Covode and the questions centered around whether McDowell pursued Jackson into the Valley with sufficient haste and McDowell's relations with civilians in Virginia. Haupt cleared McDowell on both counts and proffered the opinion that had McDowell been allowed to advance towards Richmond as planned, that city would have been captured in a few days. Report of Committee on Conduct of War, III, 429.

⁶⁷Herman Haupt to Anna Cecilia Haupt, July 17, 1862, Unpublished Correspondence, p. 12; Haupt felt frustrated because "I do not see that I can do anything, although Watson is quite complimentary and tells Covode and others that if I were a Major General in command, I would not wait if I saw a chance for action, but would strike and do something, whether I had instructions or not." Haupt was flattered, but replied by saying that "I have no military talent, knowledge, or experience, but I can see mistakes which are as glaring as the noon-day sun." Herman Haupt to Anna Cecilia Haupt, July 18, 1862, Unpublished Correspondence, pp. 12-13.

all of the railroads in Virginia, but since Pope did not require Haupt's services in any form, no offer was tendered.

Haupt returned to Boston during the third week in July, and there he contracted a fever which confined him to his home from August 2 through August 7.⁶⁸ However, events were transpiring in Virginia which soon led to his reinstatement with the military railroads. Lee was determined to strike Pope's army before McClellan completed his evacuation of the Peninsula and the two armies could be united. Jackson moved up the Valley and met and defeated Banks at Cedar Mountain on August 9.⁶⁹ On August 14, Pope sent a wire to General Halleck explaining that "the management of the railroad from Washington to Culpeper is most wretched and inefficient. . . . I request that Colonel Herman Haupt may be telegraphed . . . to come here at once to take charge of all railroad matters in this department."⁷⁰ Watson sent a telegram to Haupt in Cambridge on August 15

⁶⁸Haupt to Cartwright, August 7, 1862, Haupt Papers, Box 3; In the event that Haupt was not asked to return to the military railroads he was searching for something to occupy his time. "I am not yet very old, but I am getting more and more disinclined to leaving home and sometimes think the best thing I can do would be to stick with flaxbrilia and work it out. . . . A satisfactory process for making flax cotton I am satisfied has not yet been developed." Herman Haupt to Anna Cecilia Haupt, July 20, 1862, Haupt Papers, Box 3.

⁶⁹Randall and Donald, The Civil War and Reconstruction, p. 218.

⁷⁰John Pope to Henry Halleck, August 14, 1862, Official Records, XII, pt. 3, p. 571.

stating "come back immediately; cannot get along without you; not a wheel moving on any of the roads."⁷¹ Haupt, now recovered from his illness, arrived in Washington on August 16 and met with Watson. Haupt then took an engine to Alexandria and an ambulance to Pope's headquarters near Cedar Mountain. He walked over the battlefield, noting that his construction corps was being used to bury the dead, and reported to headquarters where he found McDowell and Pope awaiting him.⁷² Pope gave Haupt a free hand with the railroads, even to the point of allowing Haupt to dictate the general order placing himself in command. Remembering his experience with the Manassas Gap Railroad, Haupt dictated bluntly that "all railroads, and especially the Orange and Alexandria Rail Road, within the limits of the Army of Virginia, are placed under the exclusive charge of Colonel Herman Haupt." He forbade any other officer, even Pope, to give orders to any employee of the railroad except through himself.⁷³ Pope signed the order without comment.

⁷¹Haupt, Reminiscences, p. 70.

⁷²Herman Haupt to Anna Cecilia Haupt, August 16, 1862, Unpublished Correspondence, pp. 14-15.

⁷³Haupt, Reminiscences, p. 70; General Order No. 23, Records of the Office of the Quartermaster General, Letters Received by Col. Herman Haupt, 1862, Reports of Operations by Col. Haupt, June 1863, Record Group 92 (National Archives, Washington, D.C.), p. 9. Hereinafter cited as Quartermaster General's Office Records; Haupt's authority was extended the next day by Stanton to embrace all the railroads within the Army of Virginia. Order of Edwin Stanton, August 19, 1862, Haupt, Reminiscences, p. 70.

Haupt was allowed no time to organize the railroads. On August 18, Pope, in the face of pressure from Lee and Jackson, began to withdraw his army northward across the Rappahannock. Haupt left Pope and went to Culpeper where he organized the loading and removal of all supplies from the town over the Orange & Alexandria towards Alexandria. Pope ordered Haupt to keep twenty cars of subsistence and ". . . nearly the whole of the rolling stock of the road" at either Catlett's or Warrenton Junction so that in case of a retreat all the baggage of his army could be shipped safely back to Alexandria.⁷⁴ Haupt complied with the order despite the fact that the move concentrated much of the equipment of the road at the exposed end of the line and made it difficult to forward troops of McClellan's command as they arrived in Alexandria from the Peninsula. Haupt's fears were soon realized on August 21 when 20,000 troops arrived at Alexandria seeking rail transportation to Pope's army. Haupt spent the day in vain trying to find out just how many troops were expected to use the railroad daily so he could establish some system of priorities.⁷⁵ On August 22, General Halleck telegraphed Haupt that an additional 10,000 to 15,000 men could be expected at Alexandria

⁷⁴Haupt, *Reminiscences*, pp. 70, 73; Pope to Haupt, August 20, 1862, *ibid.*, p. 75.

⁷⁵*Ibid.*, pp. 76-77.

for transportation over the Orange & Alexandria.⁷⁶ Haupt established a schedule for the departure of trains similar to the one he had used on the Manassas Gap Railroad. No sooner was the schedule established than General Halleck issued orders to Superintendent Devereux to load and move troops as quickly as they arrived irrespective of the schedule. Haupt was furious. He sent a message to Devereux stating that "neither General Halleck or anyone else has any right to give orders in regard to trains in opposition to my instructions. I want the schedule restored tomorrow."⁷⁷ Haupt also sent a message to Pope's chief of staff complaining that "the schedule has been set aside, and everything is in confusion; trains are on the road, and we cannot tell where, and cars cannot be sent in. I have censured the Superintendent in strong terms, and would suspend him if I had anyone else capable of performing his duties. So long as I am responsible for the management, no orders except from myself or through me must be respected."⁷⁸

On the afternoon of August 22 Haupt went to the front to consult with Pope on the probable demands to be made on the railroad. Haupt remained with Pope for about two hours as reports filtered in that enemy wagons were

⁷⁶Halleck to Haupt, August 22, 1862, ibid., p. 77.

⁷⁷Haupt to Devereux, August 22, 1862, ibid.

⁷⁸Haupt to George Ruggles, August 22, 1862, ibid., p. 78.

seen moving up the river to the north of Pope. Haupt sensed a flanking movement on the part of the Confederates but hesitated to give advice because he did not wish to seem impertinent and assumed that Pope had access to better information. Pope reassured Haupt that there was no danger of a flanking movement and Haupt left.⁷⁹ When Haupt arrived in Manassas just before midnight, he received two telegrams from Pope ordering that all supplies at Rappahannock Crossing be evacuated and explaining that "the enemy has succeeded, in greatly superior numbers, in turning our right in the direction of Sulphur Spring and Warrenton."⁸⁰ Haupt also received a report that one of his trains had been attacked by a force of Confederate cavalry at Catlett's station, behind Pope's lines.⁸¹ Haupt was ordered to send all the men available to Catlett's on the railroad and carry away all the cars and material located there.⁸²

Haupt had already gone two days with little sleep

⁷⁹Haupt, Reminiscences, p. 73.

⁸⁰Pope to Haupt, August 22, 1862, 11:40 P.M., ibid., p. 79.

⁸¹Haupt to Pope, August 22, 1862, ibid., p. 80; This was a raid on Pope's communications by General Jeb Stuart. Stuart attempted to burn bridges in the vicinity but a rain storm prevented their destruction. Robert E. Lee to Jefferson Davis, August 23, 1862, in Clifford Dowdey (ed.), The Wartime Papers of Robert E. Lee (Boston: Little Brown and Company, 1961), p. 262.

⁸²Haupt to McCrickett, agent, August 23, 1862, Haupt, Reminiscences, p. 84.

but on the morning of August 23 as the calls upon him for transportation and the vexatious delays greatly increased he realized things were going to get still more frantic. His nephew, Robert Schaeffer, who had been looking for Haupt for several days, finally found him at breakfast and wrote Anna Cecilia that "as usual he seems to have the duties of a half a dozen men devolving on his shoulders."⁸³ By that afternoon Haupt had sent 6,600 troops forward in less than twenty-four hours, but this resulted in most of the locomotives and cars of the line being located at the south end, vulnerable to enemy raids.⁸⁴ He protested to Pope that all cars must be immediately unloaded and returned to maintain rapid movement and asked that some competent officer be assigned the duty of overseeing the unloading.⁸⁵ The same afternoon Haupt wired Watson that "we keep running day and night, eat little and sleep almost none. 20,000 more troops just arrived."⁸⁶ The entire day was filled with demands from every conceivable source for

⁸³Robert A. Schaeffer to Anna Cecilia Haupt, August 23, 1862, Haupt Papers, Box 3.

⁸⁴Haupt to Watson, August 23, 1862, Haupt, Reminiscences, p. 84; Since each car had a capacity of fifty men, Haupt had sent 132 cars loaded with troops within twenty-four hours. Haupt to General Jacob B. Cox, August 26, 1862, Official Records, XII, pt. 3, p. 679.

⁸⁵Haupt to Pope, August 23, 1862, Haupt, Reminiscences, p. 85.

⁸⁶Haupt to Watson, August 23, 1862, ibid.

train accommodations, and Haupt taxed his considerable ingenuity apportioning transportation over the single track line.

Haupt not only had to worry about Rebel raids, collisions, and the lack of equipment, but he also had to spend valuable time arguing with Union officers. At eight-forty on the evening of the 23rd, Brigadier General S. D. Sturgis began stopping empty trains about two and one-half miles south of Alexandria, loading his men in the cars, and having the trains await further orders from him. Since the trains were standing in the middle of the main track, all activity on the railroad came to a halt and very soon there were five trains stalled.⁸⁷ Sturgis then sent a message to Haupt asking that his men be moved before the transportation of other divisions was completed. Haupt replied that unless he received orders directly from Halleck or Pope he saw ". . . no propriety in the course you wish me to pursue."⁸⁸ Haupt also included a copy of Halleck's orders forbidding interference by any officer, whatever the rank, with the railroad. When the messengers reached Sturgis, he

⁸⁷Testimony of the Conductors and Engineers on the Orange & Alexandria, August 23, 1862, Quartermaster General's Office Records, p. 8; Sturgis had sent a captain with orders to ". . . take your company, and stop all trains and allow no troops to embark but those of this command." Sturgis to Captain Draper, August 23, 1862, *ibid.*, p. 14.

⁸⁸Haupt to Sturgis, August 23, 1862, Haupt, Reminiscences, p. 87.

read about one-half of Haupt's letter and abruptly announced that ". . . the writer of the dispatches was a God damed [sic] sun [sic] of a bitch," and if Haupt ". . . gave him any sauce he would shoot him."⁸⁹ Sturgis called in a captain and sent him with a file of men to find and arrest Haupt.⁹⁰ Sturgis then formally notified him that he had taken military control of the railroad and ordered Haupt to send additional cars to the bottleneck to accommodate his division.⁹¹ Haupt replied that "I can do no more but throw upon you the responsibility you have assumed, let the trains stand, and report the fact to the War Department which I have done."⁹² Haupt gave orders to Devereux to send Sturgis and his division to the front as soon as they were loaded, but no troops were loaded. Haupt finally wired Halleck to intervene and left Alexandria about midnight to confront Sturgis personally.⁹³ Sturgis greeted

⁸⁹Testimony of the two messengers delivering the dispatches, August 1862, Quartermaster General's Office Records, p. 13.

⁹⁰Sturgis said "he would have him arrested and put in the slave pen. . . ."

⁹¹Sturgis to Haupt, August 23, 1862, Haupt, Reminiscences, p. 87.

⁹²Haupt to Sturgis, August 23, 1862, 11:30 P.M., Quartermaster General's Office Records, p. 2; Haupt had telegraphed Watson at 9:45 P.M. Haupt to Watson, August 23, 1862, Official Records, XII, pt. 3, p. 638.

⁹³Haupt to Halleck, August 23, 1862, 11:45 P.M., Quartermaster General's Office Records, p. 1.

Haupt by announcing that his troops were on the way to arrest him, to which Haupt replied that if he could get a few hours' sleep he would be happy to be arrested. In the middle of the conversation an orderly delivered Halleck's reply stating that Haupt had complete control over the road and adding "show this to Gen. Sturgis & if he attempts to interfere I will arrest him."⁹⁴ As Sturgis was drunk, Haupt had a difficult time making him understand the dispatch was from Halleck and not Pope, about whom Sturgis kept repeating "I don't care for John Pope a pinch of owl dung."⁹⁵

While Haupt attempted to convince Sturgis that his orders were from Halleck, the bottleneck on the railroad grew to ten trains. Some of the cars were packed with wounded being returned to Washington, two of whom died because of the delay. The engines exhausted their wood and water, and there was no way of getting them around the stalled trains to refuel.⁹⁶ Finally, at about two A.M.,

⁹⁴Haupt, Reminiscences, pp. 80, 83, Halleck to Haupt, August 24, 1862, Quartermaster General's Office Records, p. 7.

⁹⁵Haupt, Reminiscences, p. 83; Haupt, in his Reminiscences, intimates that Sturgis was drunk. Haupt later wrote his wife that "General Sturgis who was drunk at the time. . . ." Herman Haupt to Anna Cecilia Haupt, n.d., Haupt Papers, Box 3.

⁹⁶Testimony of the Conductors and Engineers on the Orange & Alexandria, August 23, 1862, Quartermaster General's Office Records, p. 7.

Haupt was able to convince Sturgis that the orders were from Halleck and threatened him with arrest. Sturgis told Haupt to ". . . take your damned railroad,"⁹⁷ and wired Halleck that "if Colonel Haupt had the interest of the service at heart the mass of my division would now be at the Junction. I think he is making a point of some railroad technicalities which I do not understand, but which I know will unfortunately keep me here until he chooses to let me go."⁹⁸ At 2:40 A.M. the first train was able to run into Alexandria, but the remainder did not reach the city until daylight.⁹⁹

Haupt did not sleep at all the night of the twenty-third, and by 4:35 A.M. he realized he was no longer in telegraphic communication with Pope. Haupt now had to decide on his own where to transport troops, in what order, how many, and where to direct them to report.¹⁰⁰ Haupt waited during the morning of the twenty-fourth for all the trains delayed by Sturgis to arrive at Alexandria to send forward the 10,000 troops waiting there. At 10:30 A.M. he

⁹⁷Haupt, Reminiscences, p. 83.

⁹⁸Sturgis to Colonel Kelton, assistant-adjutant-General, August 24, 1862, 2:00 A.M. Official Records, XII, pt. 3, p. 648.

⁹⁹Testimony of the Conductors and Engineers on the Orange & Alexandria, August 23, 1862, Quartermaster General's Office Records, p. 8.

¹⁰⁰Haupt to Halleck, August 24, 1862, 4:35 A.M., Haupt, Reminiscences, p. 88.

sent an empty engine to find them, but it was not until the middle of the afternoon that the first trains could be loaded for the trip to the front. General Hooker's division was scheduled, but Hooker was not to be found and Haupt wired Watson to look for him. Watson replied that Haupt should be patient with the generals for ". . . some of them will trouble you more than they will the enemy."¹⁰¹ When by early evening some trains had still not arrived, Haupt went to search for them personally. He found that all the trains provided for moving Sturgis to the front were still empty as Sturgis had given no orders for loading. There were now 20,000 additional men waiting in transports off Alexandria. Haupt ordered all trains back to Alexandria and sent them out that night loaded with supplies and ammunition, but no troops.¹⁰²

August 25 dawned with two derailments and a collapsed bridge, but by 5:00 A.M. six trains had left for the front with Hooker's division.¹⁰³ Haupt was in Washington

¹⁰¹Watson to Haupt, August 24, 1862, ibid., p. 90.

¹⁰²Haupt, Reminiscences, p. 90; Haupt was overwhelmed with troops seeking transportation. "Thirty six thousand troops or more demand transportation. It is clear that the sudden demands exceed the capacity of the road. We can manage 12,000 troops per day, with supplies, if no accident occurs." Haupt to Pope, August 24, 1862, Official Records, XII, pt. 2, p. 63.

¹⁰³Haupt to Pope, August 25, 1862, 5:05 A.M., Haupt, Reminiscences, pp. 90, 93; Haupt to Devereux, August 25, 1862, Official Records, XII, pt. 3, p. 663.

conferring with Halleck, who ordered all officers to report to Haupt for directions in the absence of telegraph communications with Pope. Haupt set up an order of priorities for transportation, with subsistence for the army first, followed by forage, ammunition, hospital stores, veteran troops, and raw troops. Since the front was a mere eighteen miles away, Haupt encouraged any fresh troops to march the distance rather than clog the railroad. All troops and supplies were now loaded on the Washington branch of the railroad instead of the main line, and things moved more smoothly.¹⁰⁴

Until the morning of the twenty-sixth, the Orange & Alexandria, with the exception of Stuart's raid at Catlett's Station, had been relatively secure from Confederate harassment. However, at 8:50 A.M. Haupt wired Halleck that he had information that four trains had been captured south of Manassas and the Confederates were approaching the town with artillery. Haupt added hopefully that "these may be exaggerations . . .," but they were not.¹⁰⁵ Lee had split his army and sent Jackson to the north of Pope through the Bull Run Mountains, where Jackson turned eastward through Thoroughfare Gap and headed for Manassas behind Pope. On

¹⁰⁴"Notice" by Haupt, August 26, 1862, Haupt, Reminiscences, pp. 95-96.

¹⁰⁵Haupt to Halleck, August 26, 1862, Official Records, XII, pt. 3, p. 679.

the evening of the twenty-fifth, Jackson captured two trains at Bristoe, a few miles south of Manassas. Although the first train in the group ran the blockade and continued to Alexandria to warn Haupt and the last train in the group backed down the line to warn Pope, Jackson continued to Manassas, capturing the town at dawn and pillaging the great store of supplies Haupt had worked so diligently to accumulate. The railroad was now split.¹⁰⁶

With Pope's army cut off from its lines of communication and reinforcement, Jackson advanced north of Manassas and destroyed the bridge over Bull Run. Haupt now decided to transport troops and artillery as far south as the railroad was intact and to organize a party to immediately push forward to reconstruct the line to Manassas. He suggested to Halleck that an army unit be sent along with the construction train to rebuild the road and bridges as the actual fighting continued. Halleck suggested that Haupt consult McClellan on the plan.¹⁰⁷ Haupt took a rowboat and found McClellan on one of the transports off Alexandria,

¹⁰⁶Turner, Victory Rode the Rails, pp. 203-205.

¹⁰⁷After learning of the Manassas raid, Haupt wired Halleck that "it is clear now that the railroad can be relied upon only for supplies. No more troops can be forwarded. By marching they will protect communication; in cars they are helpless. Our capacity by this raid will be much reduced." Haupt to Halleck, Official Records, XII, pt. 3, p. 680; Haupt was hesitant to suggest tactical movements, but ". . . Halleck took no offense at what might have been considered an impertinence. . . ." Haupt, Reminiscences, p. 97.

but McClellan would not give his assent to the proposal, which he considered too risky. This placed Haupt in an awkward position since any action he took would be against the wishes of McClellan.¹⁰⁸ Nevertheless, at 9:50 P.M. on August 27, Haupt sent a message to McClellan stating that a wrecking and construction train and a forage and subsistence train were going to leave for Bull Run and Pope was being contacted by messenger to have supply wagons at that point to unload the provisions. Haupt asked McClellan for protection and added "if the troops are not here by 4:00 A.M., we propose to go ahead without them."¹⁰⁹ Haupt received no reply, so he took a lantern and visited the camps along the railroad until he found General Winfield Scott Hancock, who agreed to lend him the necessary troops.¹¹⁰

The reconnaissance trains left on schedule and continued fourteen miles south of Alexandria to a twenty-four-foot bridge over Pohick Creek which had been destroyed. Haupt ordered all buildings in the vicinity torn down and used to rebuild the bridge. By 10:00 A.M. the bridge was rebuilt, telegraph lines repaired, and the trains collected

¹⁰⁸Haupt, Reminiscences, pp. 98-99.

¹⁰⁹Haupt to George McClellan, August 27, 1862, ibid., p. 103.

¹¹⁰Haupt, Reminiscences, p. 99.

the wounded at Fairfax and returned to Alexandria.¹¹¹

Haupt spent August 29 organizing the construction trains to rebuild the bridge over Bull Run and recruiting the necessary guards to protect the workmen. He also shipped forage and subsistence to the end of the abbreviated line where they were loaded on wagons for the rest of the trip. Work commenced on repairing Bull Run bridge on August 30.¹¹²

To add to Haupt's problems, Stanton asked for civilian volunteers from Washington and Baltimore to go to the battlefield to help nurse the wounded and ordered Haupt to send a train to Washington to transport the volunteers to the front. Haupt protested that the civilians would be a greater hindrance than help, but finally complied with the order. When the train arrived at Alexandria, it contained 800 men and women in varying stages of sobriety. Haupt wired ahead to Fairfax ordering the station agent to arrest all the drunks and send them back, which resulted in the majority of the volunteers never seeing a wounded man. The remainder waited until dawn, and returned to the

¹¹¹Ibid.; Jackson had retired with his forces towards Thoroughfare Gap, leaving Manassas in smoking ruins in Union hands, but the railroad was still broken over Bull Run. Turner, Victory Rode the Rails, p. 205.

¹¹²The reconstruction work was hindered by a wreck just north of the burned bridge that had to be cleared before starting on the structure. The track was finally cleared on August 30. Haupt to Halleck, August 30, 1862, Haupt, Reminiscences, p. 124.

railroad where Haupt refused them transportation to Washington as they would displace the wounded being evacuated.¹¹³

Haupt worked throughout August 30 arranging for protection of the vital portions of the railroad to keep it open. Transportation of troops was reduced, for Pope was moving northeastward toward Washington and within easy march of Alexandria. Lincoln maintained contact with Haupt in an attempt to get fresh information from the field, and Haupt relayed to the President what reports he had about enemy activities. Reconstruction work continued on the bridge and at nightfall troops were stationed along the line to ward off further damage.¹¹⁴

On the morning of August 31 Haupt learned that Manassas was again being evacuated, placing his construction corps at Bull Run bridge in an exposed position.¹¹⁵ Haupt

¹¹³Haupt, Reminiscences, pp. 116-117.

¹¹⁴Lincoln wired Haupt for news three times in two days in an attempt to discover whether the battle was won or lost. Ibid., pp. 117-124; Pope had sent a dispatch to Halleck on August 30, claiming a great victory, but all other information failed to support this view and Lincoln was anxious to get the truth. Williams, Lincoln and His Generals, p. 157.

¹¹⁵Upon learning this Haupt couldn't help but give a little advice. To Halleck and McClellan he wrote ". . . there should be but little difficulty in our retaining possession of the triangle formed by the line of the railroad from Bull Run to Alexandria, the streams of Bull Run, Occoquan, and the Potomac. If the bridges and fords on the Occoquan and Bull Run are guarded and cavalry scouts kept patrolling this triangle, no enemy could approach the line of the road. . . . Please give a thought to these suggestions." Haupt to McClellan and Halleck, August 31, 1862, Official Records, XII, pt. 3, p. 776.

requested and was sent additional troops to protect the construction crew. He was also still protesting the annoyances of the ". . . drunken rabble who came out as nurses, by permission of the war department."¹¹⁶ Watson finally issued an order placing guards at bridges and wharves to stop all unauthorized civilians attempting to visit the battle. Despite the interference, Haupt continued sending needed provisions as far south as Fairfax to keep Pope supplied.¹¹⁷

On September 1, Confederate cavalry threatened Fairfax Station, which, if captured, would cut off the men working on Bull Run bridge and make it very difficult to supply Pope. Haupt wired his agent at Fairfax to burn all supplies in the event of an attack, load all the wounded on cars and move them out, warn the men on the bridge, and then flee. Haupt advised the agent to "keep cool and trust your legs and the bushes for escape."¹¹⁸ Haupt went to Washington in the afternoon to confer with Stanton and await the outcome of the battle, which appeared lost.

The same evening Haupt wrote his wife that
". . . Secretary Stanton, in acknowledgement of my services,

¹¹⁶Haupt to General R. B. Marcy, August 31, 1862, Haupt, Reminiscences, p. 126.

¹¹⁷Watson to Haupt, August 31, 1862, ibid., p. 127.

¹¹⁸Haupt to McCrickett, September 1, 1862, ibid., p. 130; McCrickett replied to Devereux, ". . . I feel perfectly cool and wet; have been fording streams and wading ditches since 4 A.M." McCrickett to Devereux, September 1, 1862, ibid.

offered me a general's commission. I told him that I was willing to work while the necessity existed, but when I could be spared must return to my duties in Massachusetts."¹¹⁹

The next day, September 2, was the last busy day of the campaign for the military railroads. The Union force defending Fairfax Station retreated along the line of the railroad and the station agent shipped all the supplies back to Alexandria, along with the wounded, with the exception of the forage which he burned. The defending troops left about noon and the station agent wired superintendent Devereux at 5:00 P.M. "have fired it, Good by."¹²⁰ Pope's army, soundly defeated by Lee and Jackson, was reeling back toward the defenses of Washington in disarray, making railroad supply from Alexandria not only impractical, but also impossible.

The second Battle of Bull Run, while a military disaster for the Union, established some noteworthy precedents in the operation of the military railroads. The overwhelming demands made by the army on an ill-equipped single tracked railroad convinced Haupt that they could only be

¹¹⁹Herman Haupt to Anna Cecilia Haupt, September 1, 1862, Unpublished Correspondence, p. 16; Information on the outcome of the battle still had not reached Washington. Haupt wrote "the great battle still continues. . . . The enemy fight with great desperation, greater than our own men." Ibid.

¹²⁰McCrickett to Devereux, September 2, 1862, Haupt, Reminiscences, p. 134.

met by operating trains on a rigid schedule without the telegraph, and absolutely free from specious interference of military officers. Of almost equal importance was the necessity for competent supervision of the unloading of supplies at the front and the immediate return of the cars and locomotives. Delays caused by derailments and raids were found to be of very short duration when compared to the delays caused by the unloaded cars because of the quick and efficient action of the construction corps in making the necessary repairs. It was only Haupt's organization that enabled the Orange & Alexandria to transport as many as 15,000 troops in a single twenty-four-hour period, along with the supplies, ammunition, forage and wounded.¹²¹ When Sherman marched through Georgia in 1864, his single-track rail communications which kept him well supplied, were operated by the same men who were Haupt's subordinates in 1862.

Haupt went from August 18 through September 2 with practically no sleep, receiving and sending dispatches all hours of the day and night, eating little, and constantly on the move. For a time he and his station agents were the only source of information for Lincoln and Halleck when Pope's communications were cut. Haupt bore the responsibility for directing movements of Pope's reinforcements,

¹²¹Report of Devereux to Herman Haupt, September 7, 1862, Quartermaster General's Office Records, p. 27.

deciding what and where supplies should be delivered, and even commanded troops of cooperative general officers in an effort to keep the railroad open. His unflagging efforts earned him the commission of a brigadier general from Stanton, and the personal thanks of Lincoln and his cabinet on September 5.¹²² Haupt accepted the thanks of the President, but balked at signing a formal commission for he still wished to be free to return to Massachusetts. Thus, his formal connection with the army remained as before, and he continued to perform his services without pay. In the interim between campaigns he turned his attention to perfecting the organization of his military railroad corps.

¹²²Haupt, Reminiscences, p. 135; The commission was erroneously made out to Henry Haupt. Commission of Herman Haupt as Brigadier General of Volunteers, September 5, 1862, Adamson Collection.

CHAPTER XI

THE GENERAL DEMANDS REFORM

On September 5 Lincoln relieved Pope and combined his Army of Virginia with the Army of the Potomac and placed McClellan in command of the joint force. McClellan barely assumed control before he checked Lee's invasion of Maryland at the battle of Antietam. This bloody battle, which resulted in a standoff, left McClellan in possession of the field with little disposition to either withdraw or follow Lee across the Potomac. The military railroads played little part in supplying the Army of the Potomac during Antietam, and the problems of supply continued to remain minor as long as McClellan remained stationary.¹

Haupt had turned his attention during this slack period towards the establishment of a unified command system for all the military railroads. He suggested that a single department be created directly under the supervision of the President and general-in-chief and that the head of the department be a brigadier-general. He proposed that a uniform system of organization apply to all railroads

¹Haupt, Reminiscences, p. 136; Turner, Victory Rode the Rails, p. 214.

operated by the military and that regular reports be made on the condition and needs of each of the railroads.

Haupt's final proposal was that McCallum be an officer

". . . in the department of construction and transportation . . . and as such to have the direction under the chief of the department of all matters pertaining to office details."

Haupt continued that this organization ". . . will harmonize perfectly with Colonel McCallum's duties and position and will be satisfactory to him."² Haupt, as a brigadier general, was in the incongruous position of being nominally under the supervision of a colonel, but Halleck preferred not to revise the organization and took no formal action. Haupt attempted to alleviate any conflict with McCallum by arbitrarily assigning himself the title of "Chief of Construction and Transportation, U.S. Military Railroads."³

After the battle of Antietam, Haupt traveled to Baltimore, Chambersburg, Hagerstown, and Sharpsburg arranging for rail transportation for the Army of the Potomac over the Baltimore & Ohio and the York & Cumberland

²Haupt is not clear on whether McCallum would continue as head of the military railroads, or whether he would be displaced. Haupt to Halleck, September 16, 1862, Official Records, Ser. 3, II, pp. 548-549.

³Prior to September, Haupt has used the title "Chief of Construction and Transportation, Department of Rappahannock." He now dropped the department name and added "U.S. Military Railroads," although his authority did not extend outside the area occupied by the Army of the Potomac.

railroads.⁴ Upon his return to Washington on September 26, he was faced with the decision of whether to accept his brigadier-general's commission. He wrote his wife, "I scarcely know what to do. If I accept, I am tied down to military authority. . . . I cannot get leave of absence and cannot honestly resign before the close of the war. Is it your wish that I should place myself in that position, or that I should charge merely my expenses, as I have been doing heretofore? I will be influenced to a considerable extent by your opinions on this subject."⁵ Haupt wrote the adjutant-general that "to insure increased efficiency in the administration of affairs connected with the operation of the . . . Rail Roads, I am willing to accept the commission, . . ." with the understanding that he could return to Massachusetts when his services were not required in Virginia.⁶ The conditions were unacceptable to the adjutant-general, so Haupt wrote Stanton explaining his desires.

⁴Haupt to Halleck, September 27, 1862, Haupt, Reminiscences, pp. 139-143.

⁵Herman Haupt to Anna Cecilia Haupt, September 26, 1862, Unpublished Correspondence, p. 17.

⁶Haupt added ". . . the head of the department should have sufficient rank to enforce obedience, and prevent interference from officers, by whom trains have repeatedly been delayed. . . ." When asked to declare his permanent residence, Haupt wrote: ". . . although my present residence is in Cambridge, Massachusetts, I consider Pennsylvania to be the State of which I am a permanent resident." Haupt to L. Thomas, Adjutant General, September 27, 1862, Adamson Collection.

Stanton allowed the matter to rest, and Haupt signed the oath and fulfilled all the requirements with the exception of signing the commission and continued to perform his duties without pay as before.⁷ However, he was vulnerable to instant dismissal as long as his continuance rested merely on the verbal agreement made with Stanton on September 5.

Haupt returned to Massachusetts about September 30 to visit his family and to attend to some Hoosac business. He had become pessimistic about his chances of resuming work on the tunnel after the summer of 1862. Thus, he wrote Cartwright that although "I would not refuse a good offer on the hope of a revival of [the] tunnel, I give that up, it is too uncertain. I go for winding up everything and showing up the conduct of the Gov. in strong terms."⁸ The board of directors of the Troy & Greenfield had also given up hope. On September 2, the board had adopted a resolution surrendering the railroad and all its property to the state to satisfy the mortgage.⁹ However, when the

⁷Haupt to Stanton, September 29, 1862, Adamson Collection.

⁸Haupt was not only worried about state action in Massachusetts but also was afraid that ". . . as it now stands D. N. Carpenter or any other unprincipled fellow can attach and for a minimal consideration take all to which we are entitled." Haupt to Cartwright, July 28, 1862, Haupt Papers, Box 3.

⁹Notes of the Board of Directors meeting held on September 2, 1862, in Greenfield, Massachusetts, Haupt Papers, Box 3.

tunnel commissioners asked H. Haupt & Company to release all their claims against the railroad, now owned by the state, Haupt refused the request.¹⁰ The commissioners undertook to audit the claims for labor, service, and materials expended on the railroad and not paid by the contractors, and Haupt could do nothing until the commissioners made their report and recommendations.¹¹

Haupt returned to Washington October 8. As McClellan had not yet moved his army north of the Potomac, Haupt could turn his attention to other interests.¹² One of these interests was the Treasury Department which was under public criticism for printing inferior paper money, easily counterfeited because of poor inks and cheap paper. Sometime during the summer of 1862, Stuart Gwynn, Haupt's drill engineer, invented a paper-making process that resulted in a difficult to counterfeit final product. In August Haupt wrote the Secretary of the Treasury, Salmon P. Chase, describing Gwynn's process, and Chase asked that samples be sent to the department for analysis. The tests were conducted on Gwynn's papers with very satisfactory

¹⁰Haupt's refusal to release claims to state, October 8, 1862, Haupt Papers, Box 3.

¹¹Printed circular announcing audit by state commissioners, issued in Boston, September 15, 1862, Haupt Papers, Box 3.

¹²Herman Haupt to Anna Cecilia Haupt, October 8, 1862, Haupt Papers, Box 3.

results, but the information was not passed on to Chase. It was not until October that Chase learned of the results and asked Gwynn to come to Washington. He arrived on October 8, accompanied by Haupt. The Treasury Department again investigated the process during the second week of October and Haupt "spent an evening with Genl. McDowell at Sec. Chase' [sic] house and discussed Gwynn's paper and other matters fully." After the meeting Haupt was able to report "arrangements will be made for the preparation of the paper in the Treasury building, the process to be kept secret."¹³ Haupt did not expect to benefit personally from helping Gwynn, but he did expect to place his nephew, Charles Schaeffer, and his secretary, George Fall, in the Treasury Department through Gwynn's influence.¹⁴ Gwynn himself, Haupt wrote his wife, ". . . will be in receipt of a very large income, possibly \$50,000 a year. . . . It will enable him to carry out his plans of latent heat and place him in a position of much influence."¹⁵

¹³Herman Haupt to Anna Cecilia Haupt, October 12, 1862, Haupt Papers, Box 3.

¹⁴Haupt also wished that his son Lewis was older ". . . and was well acquainted with chemistry [for] I would have a very good opportunity of giving him a position, . . ." Ibid.; Haupt aided Gwynn in the hopes that if he was successful ". . . it will give him means to finish drill and other important matters." Herman Haupt to Anna Cecilia Haupt, October 8, 1862, Haupt Papers, Box 3.

¹⁵Haupt also warned his wife, "but you must not talk of this." Herman Haupt to Anna Cecilia Haupt, October 12, 1862, Haupt Papers, Box 3.

Despite official approval of Gwynn's process, the desired contract with the Treasury Department was delayed. Gwynn, ever impetuous, managed to stir up controversy almost immediately upon arrival in Washington by writing a caustic letter to the Navy Department criticizing their engineering and construction programs for new ships, which was passed to Montgomery Blair, the postmaster general and a former classmate of Haupt's. Blair mentioned to Haupt that the letter showed Gwynn was either ". . . an imposter or fool," and Haupt had to write a long letter exonerating Gwynn to the assistant secretary of the navy, Gustavus V. Fox. Haupt explained that Gwynn was ". . . irritable, impatient and excitable, but at the same time honest and self sacrificing. . . . He is not a fool neither is he illiterate even if he does ignore the rules of grammar in conversation." Haupt promised to ask Gwynn to apologize.¹⁶ Gwynn evidently did, for Haupt was able to write his wife on November 11 that ". . . Gwynn's contract [is] signed all right [and] he is now in a first rate position to make money and be useful."¹⁷

¹⁶Haupt always maintained a high regard for Gwynn's technical competence, and wrote to Fox, "if you ever get to know him well you will like him and you cannot fail to get some usefulness from one who has investigated and experimented so much in hydraulics, pneumatics, steam and its applications, Chemistry, Photography, electricity, electromagnetism etc.--" Haupt to Gustavus V. Fox, November 1, 1862, Haupt Letterbook, 1862-63, pp. 6-7.

¹⁷Herman Haupt to Anna Cecilia Haupt, November 11, 1862, Haupt Papers, Box 3.

Before the month was out, Haupt was again defending Gwynn from "certain parties [who] were working with Secretary Chase to overturn Gwynn's contract and to continue the old system which is a regular plundering operation upon the government."¹⁸ Haupt took the dispute into the newspapers, giving information to correspondents for articles explaining the shoddy condition of banknotes and ease of duplication.¹⁹ "It affords a malicious gratification to witness the wriggling of the Bank note contractors under the castigation they are now getting,"²⁰ Haupt wrote Gwynn. The newspaper articles continued through the end of 1862, by which time Haupt had acquired new interests. Gwynn continued in the Treasury Department until he was incarcerated in Washington's Old Capital prison in January of 1864 for fraud.²¹

Haupt's time was not exclusively devoted to

¹⁸Herman Haupt to Anna Cecilia Haupt, November 25, 1862, Haupt Papers, Box 3.

¹⁹Unidentified newspaper clippings, Haupt scrapbook, pp. 55, 71; Haupt wrote his wife, "I threw a shell into the camp which exploding hit right and left and completely discomforted the conspirators opening the eyes of Sec. Chase to their doings." Herman Haupt to Anna Cecilia Haupt, November 25, 1862, Haupt Papers, Box 3.

²⁰Haupt to Gwynn, November 22, 1862, Haupt Letterbook, 1862-63, p. 56. Haupt enclosed another article in this letter and asked Gwynn to get it printed in the Boston Journal Advertiser.

²¹Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 139.

furthering Gwynn's career during the lull in the fighting. One of Haupt's favorite projects was the invention and manufacture of lightweight devices for the destruction of enemy railroads and bridges. By November 1, the first of his inventions, a torpedo for the destruction of bridges, was ready for distribution, and Haupt printed up a broadside describing its use.²² The torpedo was about eight inches long and two inches in diameter, made from iron pipe and full of powder. Accompanying the torpedo was a small auger for boring a hole in a wooden bridge for insertion of the charge. One had only to know which were the main braces to be assured of the total destruction of the bridge.²³ Haupt had experimented with the device on a dummy bridge structure at Alexandria and found that one charge, well placed, was sufficient to pull the whole bridge down.²⁴ Haupt advertised the torpedoes as available to any military unit from Superintendent Devereux. As the war continued, Haupt's promotional campaign for his devices intensified, including

²²Suggestions as to the Most Expeditious Mode of Destroying Bridges and Locomotive Engines, November 1, 1862, Haupt scrapbook, p. 123; Haupt, Reminiscences, pp. 149-150.

²³Ibid.

²⁴Haupt continued his experiments after the broadside was issued. Haupt wrote a superintendent giving explicit instructions on building a huge frame contraption weighted down with 7,000 pounds of rails to test the torpedoes. Haupt added, "when you are ready for the experiment I will come on." Haupt to J. J. Moore, superintendent, November 26, 1862, Haupt Letterbook, 1862-63, p. 67.

large glossy photographs showing the actual usage of the instruments, which were distributed to army units that might be interested.²⁵

Haupt also published information on the simplest and most effective method of destroying locomotives and cars. He suggested a well placed cannonball through the boiler of the locomotive, destroying the boiler flues and necessitating a complete overhaul before becoming operational again. Destruction of cars was by the conventional method of setting the wooden vehicles afire. Haupt did not devote an excessive amount of time to the perfection of new devices, but rather usually jotted down a new idea and forwarded it to Devereux, who would test its effectiveness.²⁶ It was not until May 1863 that Haupt presented to Halleck a full report on all of his findings.

Strangely, Haupt spent more time soliciting and dispensing advice to the Naval Department on the construction of ironclads, armament, and coastal defenses than he did on the development of devices related to his military railroads. Haupt became so outspoken on the question of naval construction that he drew rebukes from not only the Secretary of the Navy, Gideon Welles, but also from Stanton.

²⁵Suggestions as to the Most Expeditious Mode of Destroying Bridges and Locomotive Engines. November 1, 1862, Haupt scrapbook, p. 123.

²⁶Ibid.

Nevertheless, Haupt was genuinely motivated by a belief that there existed widespread fraud and corruption in the Navy Department, allied with an unbelievable degree of stupidity resulting in inferior, slow and unseaworthy ironclads, and he was not hesitant in making his views known.²⁷

Haupt's interest in naval affairs and coastal defenses antedated his connection with the army. As early as 1861 he started collecting newspaper clippings pertaining to the construction of ironclads and coastal defenses and became an early and vociferous advocate of the construction of a swift ironclad high seas fleet.²⁸ However, his first recommendations concerned new and novel ways to protect Northern cities from waterborne invasions.

While Haupt was still engaged in the legislative fight over the Hoosac in April of 1862, and just prior to Stanton's telegram to come to Washington, he published his recommendations for coastal defenses in the Boston Commercial Bulletin.²⁹ Haupt felt that the normal arrangement of masonry forts, complete with flanking angles to provide an

²⁷Haupt wrote to the assistant secretary of the navy that ". . . I am truly thankful that while there are so few fine men about Washington there is at least one in the Naval Bureau." Haupt to Fox, November 1, 1862, Haupt Letterbook, 1862-63, p. 7.

²⁸Unidentified newspaper clippings, Haupt scrapbook, pp. 13, 35, 43, 49, 53, 55, 57, 58, 61, 63, 66, 72, 77, 86, 112.

²⁹Boston Commercial Bulletin, April 26, 1862, Haupt scrapbook, pp. 131-133.

adequate field of fire were not only costly, but vulnerable. He proposed instead, circular masonry forts topped by wrought iron, revolving flat-topped circular turrets containing twenty guns or more, rotated by steam engines located below, insuring a full 360 degrees of fire. In cases where replacement of existing forts was impractical, he proposed the construction of small turrets located outside the flanking walls of a fort, containing one or two very large guns and connected to the fort by means of a railroad track. In case of an attack, small guns for the firing of grapeshot could then be run out on the railroad replacing the large caliber guns in the turrets. Haupt reserved his most novel arrangements for floating batteries to be located off a fort for strictly defensive purposes. Each of the batteries was to be about 150 feet in diameter, constructed of iron and fitted with a unique propulsion system. Two large pipes, located at right angles and forming diameters across the circular battery, were to be connected to water pumps operated by a steam engine and capable of discharging 1,500 to 2,000 gallons of water per minute. Each of the water pumps would be reversible and operated by a handspike so that ". . . when both discharges are towards the rear the battery will move towards the front; when both are towards the front, it will recede with equal velocity; when one is turned to the front, and the other to the rear, it will rotate; . . . so that this simple arrangement

answers for propulsion, rotation, and steering."³⁰

Haupt refined the theory of jet-water propulsion later in 1862 by suggesting that steam engines be placed in the holds of sailing ships connected to pipes running fore and aft, drawing water in the front and discharging it with great force through a pump out the stern. He calculated that this would add an additional five knots per hour to the average ship and carry with it the additional advantage that should the ship be struck below the waterline, the water pumps could be switched to suck up the incoming water in the hold and throw it out the back.³¹

Haupt's last suggestion for coastal defenses was for the construction of rectangular, iron floating forts, which in peacetime could be anchored and used for light-houses, but in the event of war would be towed into the channel or entrance to the harbor and sunk with only a small portion of the top showing. These forts, containing cannon, would be almost impervious to attack from floating vessels. When war was over, the batteries could then be refloated and returned to their former positions.³²

Haupt's suggestions were perhaps too novel and

³⁰Ibid., p. 132.

³¹Unidentified newspaper clipping, n.d., Haupt scrapbook, p. 13.

³²Boston Commercial Bulletin, April 26, 1862, Haupt scrapbook, p. 132.

advanced and were never seriously considered. But Haupt's interest in coastal defenses never flagged and as the war continued, he became more concerned as rumor reached the North that Great Britain was constructing ironclads for the Confederacy which were far superior to any in the U.S. Navy. His belief that the Navy Department was a bloated bureaucracy incapable of recognizing new and more efficient ideas led him initially to attempt to bypass the department and appeal directly to Lincoln in the hope of some rapid action. Haupt prepared a circular proposing that a group of eminent United States engineers come to Washington to meet with the President ". . . with a view to communicate to our Chief Magistrate the practical results of experience and observation, and expose our present dangers."³³ Haupt decided to select the engineers himself on the basis of their knowledge of naval affairs both domestic and foreign and as a basis for his selection sent a number of respected engineers a list of fifty questions concerning everything from the cost of vessels in domestic shipyards as compared with foreign yards, to the advantages and disadvantages of the use of high-pressure marine steam engines.³⁴ Haupt printed the circulars and mailed them on October 30, but they did

³³Boston Daily Advertiser, November 12, 1862, Haupt scrapbook, p. 63.

³⁴Ibid.

not remain private very long.³⁵

The Philadelphia Inquirer on Sunday, November 2, 1862, carried the circular in full over Haupt's signature. Haupt was probably gratified to strike a public blow at the Navy Department but he was unhappy over the timing of the publication.³⁶ He wrote the editor of the Inquirer that ". . . the publication of the circular was wholly unauthorized by me and would not have been permitted with any knowledge of such intention. . . . The publication . . . may appear to be a reflection upon the navy department: this was not intended. My impression is that there are abuses and defects in some of the Bureaus but I do not positively even know this. . . . It is therefore very unfortunate that what I intended to use merely as a means of informing myself should so prematurely have been made public. The intention was no doubt good, but the act was I think injudicious."³⁷ The circular was picked up and printed by other

³⁵Herman Haupt to Anna Cecilia Haupt, October 30, 1862, Haupt Papers, Box 3.

³⁶The copy of the circular which appeared in the Philadelphia Inquirer was one which Haupt ". . . had given to my friend Covode [and which] was picked up in his room by a newspaper Correspondent and found its way into the papers." Haupt to Stanton, November 20, 1862, Haupt Letter-book, 1862-63, p. 50.

³⁷Haupt's plans for the circular were, "if the facts elicited should prove the existence of defects my intention was and is, to agitate the subject until the necessary remedy is applied. Just bringing it in a quiet way to the attention of officers of the department who might be able to apply the corrective: if unsuccessful, then to

papers across the North, some with Haupt's consent and some without.³⁸

While the publicity given to Haupt's circular increased the number of replies sent to Haupt, it also drew fire from members of the Navy and War departments. Unfortunately, Haupt's circular as printed by the newspapers carried the heading of "War Department, U.S. Military Railroads," seemingly giving official sanction by that department to the contents of the circular. Haupt had given the draft of the circular to his secretary to write out, but the secretary wrote it on official departmental paper and mailed copies to about twenty engineers.³⁹ Haupt wrote to Stanton trying to explain the mistake, which he readily admitted, but he did not concede that he had no right to publish articles detrimental to other departments. "I am not one of those who can quietly stand by, witness defects, evils, frauds, mismanagement or waste of public property or treasure and satisfy my conscience with 'it is none of my business'; it is my business, and it is the business of

direct it to the attention of the President, the Cabinet or members of Congress but [not] . . . upon the public through the columns of the press." Haupt to the Editors of the Philadelphia Inquirer, November 3, 1862, Haupt Letterbook, 1862-63, pp. 8-9.

³⁸Haupt sent copies to Boston to be included in the newspapers. Boston Daily Advertiser, November 12, 1862, Haupt scrapbook, p. 63.

³⁹Haupt to Stanton, November 20, 1862, Haupt Letterbook, 1862-63, pp. 49, 51.

every citizen to use his best endeavors to make wrong right; to sound the alarm when he sees the danger."⁴⁰ Haupt also wrote Gideon Welles, in a slightly less subdued tone, explaining that he had turned down his commissions because "I seek to be free, free to control my own acts or to criticize the acts of others where I think the public good requires it."⁴¹

Although Haupt had aroused the ire of Welles and Stanton, he found an ally in the Navy Department in the person of the Assistant Secretary Fox, who had been introduced to Haupt through Montgomery Blair. The men became very good friends, and Fox was able to furnish much inside information on naval affairs to Haupt, and conversely Haupt tried to funnel new ideas into the department through Fox.⁴²

⁴⁰Ibid., p. 50.

⁴¹Haupt tried to assure Welles that he had ". . . no interest present or prospective in any patents, processes or contracts, . . ." but that if his circular resulted in any information that there were abuses in the navy department ". . . it is time you should know it." Haupt to Gideon Welles, Secretary of the Navy, November 20, 1862, Haupt Letterbook 1862-63, pp. 47-48; Welles wrote Haupt two days later that he would be happy to see any new ideas that Haupt might receive from technical people, but relations between the two men remained strained.

⁴²Haupt carefully cultivated the relationship with Fox. He wrote Fox concerning the naval department that "I will say that at this moment I am persuaded that fewer errors have been committed and that the course pursued has been much nearer to that which the exigencies of the times demanded than I at first supposed." Haupt to Fox, November 23, 1862, Haupt Letterbook, 1862-63, pp. 61-62.

But the net result by December 1862 was that Haupt had accomplished nothing. He was still acting as a clearing agent for new ideas, receiving the ingenious along with the crackpot, but he did not possess the needed power to put them into effect.⁴³

To achieve his reforms Haupt resorted to public opinion. He wrote his wife in late November that "when not away I spend most of my time in writing. I am on very good terms with the correspondents of the press and I am giving them articles . . . calculated to manufacture correct public sentiment by the aid of which to compel those who are in authority to do right."⁴⁴ The depredations of the Confederate cruiser Alabama during the month of December and the inability of the U.S. navy to capture it allowed Haupt the opportunity of criticizing the Navy Department for the construction of ships that were unseaworthy and slow. Writing under the pseudonym of "Vindex" in the New York Times, Haupt scored the ". . . willful stupidity and

⁴³Haupt received suggestions on gunboats, turrets, projectiles, coast and harbor defenses, construction techniques, and a letter telling him how to run the military railroads. He gave all of these plans careful scrutiny and wrote candid replies on their usefulness. He continued to hope that his idea of a scientific commission would become a reality for he felt certain that the bureaus would not examine inventions and plans ". . . and inventors discouraged go home with really valuable ideas unnoticed." Haupt to R. A. Wilder, December 24, 1862, Haupt Letterbook, 1862-63, p. 112.

⁴⁴Herman Haupt to Anna Cecilia Haupt, November 27, 1862, Unpublished Correspondence, p. 19.

ignorance of the two departments of the navy which produce our men-of-war."⁴⁵ Haupt followed this article with another in the Times on January 1, 1863, in which he proposed that Congress convene a board of engineers to not only recommend design changes in ships but to examine and authorize all plans submitted by the naval engineers, and only then would the United States cease ". . . to be beaten by English and rebel engineers and shipbuilders."⁴⁶

Haupt's flow of newspaper articles tapered off after the beginning of 1863, but he continued to receive responses to his circular as late as June of that year.⁴⁷ He continued to give advice to Fox, some of it reasonable, such as to allow bonuses for contractors who constructed ships with higher speeds than those called for in the specifications, but with little effect.⁴⁸ Haupt's proposals for abandoning the huge fifteen-inch cannon in favor of smaller-bore weapons with a higher muzzle velocity and for

⁴⁵There is not absolute proof that Haupt wrote the article, but internal evidence, particularly many of the often repeated phrases Haupt used, appear in it. New York Times, December 29, 1862, Haupt scrapbook, pp. 77-78.

⁴⁶Again, internal evidence indicates that Haupt probably authored the article. New York Times, January 1, 1863, Haupt scrapbook, p. 86.

⁴⁷Haupt to George Lewis, June 15, 1863, Haupt Letterbook, 1862-63, p. 362.

⁴⁸Haupt to Fox, April 18, 1863, Haupt Letterbook, 1862-63, p. 237.

substituting ships built principally of iron for the usual method of simply bolting sheet iron over wooden framed hulls, met with little acceptance.⁴⁹ By August 1863, Haupt had given up his plan for calling together a board of engineers and as a parting gesture appealed to Lincoln in a personal letter to intercede in the Navy Department to restore some common sense.

Haupt asked Lincoln that the navy stop manufacturing large bore cast guns and substitute smaller caliber weapons, particularly for the monitors. He put forth his scheme for harbor defenses which he had published in April 1862, with the refinement that portable crib work be sunk across harbor entrances in addition to his floating and sunken batteries. Haupt suggested that rather than have the Navy Department specify the exact designs of ships and ask for bids, that they allow outside contractors to design ships for specified general purposes and let the navy select the best design. Haupt alluded to the fact that the navy was not getting its full value for its money and ". . . that if honesty and competency in the officers and agents of the government were the rule instead of the exception, the expenses of the war and the taxes of the people would be much reduced."⁵⁰ Lincoln did not answer

⁴⁹Haupt to Fox, April 27, 1863, Haupt Letterbook, 1862-63, pp. 277-79.

⁵⁰Haupt to Abraham Lincoln, August 7, 1863, Unpublished Correspondence, pp. 49-50.

Haupt's letter and with Haupt's forced resignation from the service the following month, his badgering of the Navy Department ceased.

Haupt gained little from his crusade for a better navy. His technical ideas and recommendations were clever and advanced, perhaps too advanced to secure a serious hearing. But impatient as usual with what he considered gross stupidity within the government, or worse, Haupt's frontal attack on the naval bureau earned him nothing but the undying enmity of its chief, and stiffened the bureau's resistance to innovations. The idea of a consulting board of civilian engineers might have been accepted, if not forced on the bureau by a member of another government bureau and not backed by acrimonious newspaper articles. Finally, Haupt's position with the military railroads was insecure in the absence of a signed commission, and Haupt's harassment of the naval bureau did not furnish him any allies, which he desperately sought, when Stanton put pressure on him to either sign his commission or resign from the service.

Although Haupt carried on his quarrels with the various government departments, his activities did not interfere with his management of the railroads. After the battle of Antietam there was a pronounced lull in railroad activity until the end of October when Haupt was asked by McClellan to make preparations to supply the army of the

Potomac over the Orange & Alexandria and the Manassas Gap Railroads once more, and to make repairs to the wharf at Aquia Creek which was the head of the Richmond, Fredericksburg and Potomac Railroad.⁵¹ Haupt spent the first week in November opening up these lines and arranging transportation over them. Since the lines were in an exposed position, Haupt made arrangements with Major General Heintzelman for guards to insure the safety of the crewmembers.⁵² The Manassas Gap proved to be the same bottleneck it had been in the spring of 1862, partially because there was an absence of grass during November ". . . and 60,000 animals

⁵¹McClellan to Haupt, October 26, 1862, Haupt, Reminiscences, p. 146; The wharf at Aquia Creek which covered one and one-half acres, the bridge over Potomac Creek constructed by Haupt in May, the bridge over the Rappahannock, eight locomotives, thirty cars, the machine shops and all stores had been burned by Union troops after the second battle of Bull Run, despite the fact that the Confederates were not threatening the road. Haupt wrote Halleck, "the burning of the wharf, buildings, and bridges, I consider to have been unnecessary and highly censurable." Haupt to Halleck, September 22, 1862, Official Records, XII, pt. 3, pp. 813-814; See also: Haupt to McClellan, October 26, 1862, Haupt, Reminiscences, pp. 146-147; Haupt thought the facilities had been burned because "the destruction of stores on the evacuation of a post settles accounts for all deficiencies." Haupt, Reminiscences, p. 147.

⁵²Haupt always had trouble procuring sufficient guards to ensure the safety of the railroad. "From past experience I have but little confidence that the line will be guarded properly unless specific instructions are given as to the positions to be occupied in advance, the forces required, and [the] manner in which the duty is to be performed, . . ." Haupt to Samuel Heintzelman, November 4, 1862, Haupt Letterbook, 1862-63, p. 12.

must be fed exclusively by rail road and Genl. McClellan's requirements for transportation are four or five times as great as McDowell's."⁵³ Haupt complained to McClellan on November 6 that failure to unload cars promptly was tying up the road. McClellan replied "as no cars reached this army until 10:00 A.M. to-day, I do not comprehend your statement that cars are not unloaded with sufficient promptitude. It does not look well for the future working of the road that you anticipate accusations of delays that have not yet occurred."⁵⁴ McClellan need not have worried about the future working of the road, for when Haupt arrived at Rectorstown on the night of the seventh to establish depots and schedules for unloading, he already knew that McClellan was about to be relieved of command, his last during the Civil War.⁵⁵

Haupt had little respect for McClellan as a commanding general, and blamed Pope's defeat at the second battle

⁵³Haupt wrote Watson that "McClellan's army must contain more men than either of the cities of New York or Phila., and almost as many as both. All to be supplied by a single track rail road with few sidings and with imperfect stations and fixtures. . . . Expect plenty of grumbling, but I shall go ahead." Haupt to Watson, November 6, 1862, Haupt Letterbook, 1862-63, p. 13.

⁵⁴McClellan to Haupt, November 7, 1862, Official Records, LI, Pt. 1, p. 937.

⁵⁵Sparks (ed.), The Diary of Marsena Rudolph Patrick, p. 172; Haupt knew because he had arranged a special train for the messenger offering the command to Burnside. Williams, Lincoln and His Generals, p. 179.

Bull Run on the refusal of McClellan to provide the necessary troops to reinforce Pope.⁵⁶ Haupt cared little for McClellan personally, for he thought that both McClellan and his supporters were trying to censure McDowell to cover McClellan's incompetence. To aid McDowell, Haupt tried to get him cleared before the Committee on the Conduct of the War, using Covode to arrange the hearings and select the topics for questioning. Thirty years after the war when the memory of the old antagonisms had faded, Haupt and McClellan became friends.⁵⁷ As a result, when Haupt wrote his Reminiscences, he largely ignored his earlier unfavorable opinions of McClellan and merely chastised him for being exceedingly slow, calling him "The Unready."⁵⁸

Despite Haupt's dislike for McClellan, he wrote his wife upon learning of McClellan's dismissal that "these changes add to my trouble."⁵⁹ To forestall the problems occurring in the Military Railroad Department when past commanders had been changed, Haupt determined to talk to the new commanding general, Ambrose E. Burnside, as quickly

⁵⁶Haupt, Reminiscences, p. 134.

⁵⁷McClellan to Haupt, September 27, 1894, in Herman Haupt & Family Papers, 1864-1917 (Minnesota Historical Society, Minneapolis, Minn.). Hereinafter cited as Minnesota Haupt Papers.

⁵⁸Haupt, Reminiscences, p. 306.

⁵⁹Herman Haupt to Anna Cecilia Haupt, November 9, 1862, Unpublished Correspondence, p. 17.

as possible and impress upon him the necessity of strict observance of railroad regulations. Haupt went to see Burnside the day after his formal appointment and verbally explained his needs. On November 9 Haupt followed the talk with a written memorandum explaining in detail the necessity for strict scheduling, prompt unloading, established depots, and well guarded lines.⁶⁰ Burnside impressed Haupt. "I like Burnside very well," Haupt wrote his wife, "he talks right at any rate and I feel more encouraged than I have for a long time."⁶¹

On November 12 Haupt again saw Burnside at the latter's headquarters.⁶² After dinner the staff ". . . retired leaving Halleck, Burnside, Meigs and myself to discuss and settle the affairs of the nation. A plan of operation was determined upon which was submitted to the President on our return and approved by him."⁶³ The plan was for Burnside to move down the Rappahannock River and capture Fredericksburg as a prelude to an advance on Richmond. The details of the plan, including which side of the river Burnside

⁶⁰Haupt to Ambrose Burnside, November 9, 1862, Haupt, Reminiscences, pp. 158-159.

⁶¹Herman Haupt to Anna Cecilia Haupt, November 15, 1862, Unpublished Correspondence, p. 18.

⁶²Sparks (ed.), The Diary of Marsena Rudolph Patrick, p. 175.

⁶³Herman Haupt to Anna Cecilia Haupt, November 15, 1862, Unpublished Correspondence, p. 18.

intended to move down, were confusing and contradictory.⁶⁴

In support of the plan, Haupt continued supplying the Army of the Potomac over the Orange & Alexandria and made preparations for the restoration of the wharf at Aquia Creek for supply of the army when it reached Fredericksburg. One hundred and eighty-two cars were sent out from Alexandria on November 10 and the yards at Alexandria contained strings of loaded cars up to a half a mile long.⁶⁵ The railroad was hindered by Union troops camped along the main line who appropriated the wood and water intended for the locomotives for their own personal use and destroyed switches and switch stands. Stanton, on Haupt's insistence, issued orders forbidding the use of railroad materials and the practice ceased.⁶⁶ Nevertheless, delays continued due to the failure to unload cars at Manassas.⁶⁷

On November 11, Haupt ordered from Quartermaster General M. C. Meigs, twenty-five Schuylkill barges and a

⁶⁴Williams, Lincoln and His Generals, p. 195.

⁶⁵Superintendent Devereux to Haupt, November 10, 1862, Official Records, XIX, Pt. 2, p. 566.

⁶⁶Haupt to Burnside, November 10, 1862, Haupt Letterbook, 1862-63, p. 20 3/4; Special Order, November 10, 1862, Haupt, Reminiscences, pp. 159-160.

⁶⁷Haupt wrote the quartermaster's agent at Manassas, "I am receiving constant telegrams for supplies which cannot be forwarded in consequence of the delay that you have caused by not unloading the cars." Haupt to Captain J. F. Rushing, November 10, 1862, Haupt Letterbook, 1862-63, p. 22 1/4.

pile driver to begin work on the Aquia Creek wharf.⁶⁸ He took the barges and attached them together in pairs parallel to each other and laid tracks across the width. The plan was to supply the army as it moved from the Orange & Alexandria to Falmouth by shipping its supplies to Alexandria by rail and loading the entire train on the barges and towing them down the Potomac to Aquia Creek, where the entire train would be unloaded without a break in cargo and sent over the Richmond, Fredericksburg & Potomac. By the twenty-second, 1,000 feet of wharf was completed, the bridges on the railroad repaired, and supplies began moving to the Rappahannock.⁷⁰ Haupt calculated that the saving to

⁶⁸Haupt to M. C. Meigs, November 11, 1862, Haupt Letterbook, 1862-63, p. 28.

⁶⁹Haupt, Reminiscences, pp. 165-166.

⁷⁰Haupt to Burnside, November 17, 1862, Haupt Letterbook, 1862-63, p. 39 1/2; Haupt was also bothered by many small matters. Quartermaster-general Meigs had written Haupt inquiring about toilet facilities in the box cars used for transporting troops. Haupt gave the matter some thought and replied, "the practical mode of affording the accommodations would be by preparing in advance a number of small square boxes which could be nailed over openings made in corners of cars, this with a curtain of some kind in front would be all that decency and humanity would imperatively require." Haupt to Meigs, November 11, 1862, Haupt Letterbook, 1862-63, p. 23; Haupt also had personnel problems, particularly exempting his civilian railroad employees from the draft and arranging the exchange of railroadmen taken prisoner. Haupt had little serious trouble with the draft--he usually sent a list of the men he wanted exempted to the war department and it was honored. See: Haupt to Stanton, November 14, 1862, Haupt Letterbook, 1862-63, p. 31, and Haupt to Stanton, November 22, 1862, ibid., p. 55.

the army per year of barging entire trains instead of breaking the cargo and sending it by steamboat to Aquia Creek would amount to \$1,352,000.⁷¹

While directing the restoration at Aquia Creek, Haupt became embroiled in a dispute with Stanton over the problem of who was responsible for supplies while they were in transit on the railroads. On November 12 Stanton ordered that the military railroad department must give receipts for all supplies and take responsibility for any losses in transit. The next day Haupt protested in writing to Stanton that his superintendents had enough work without assuming responsibility for goods they did not personally load or inspect. Furthermore, much of the pilfering was done by the guards on the trains who were not under the orders of the railroad department.⁷² Haupt talked with Stanton on the fourteenth, but Stanton remained adamant. Haupt again wrote a long letter of protest to Stanton, who sought advice from both Watson and Meigs, who upheld Haupt's

⁷¹Haupt, Reminiscences, p. 169; Haupt to Meigs, November 29, 1862, Haupt Letterbook, 1862-63, p. 69.

⁷²Haupt, Reminiscences, p. 168; Haupt wrote the quartermaster's department that "I am aware that robberies are of frequent occurrence and I regret to say that in most cases the robberies have been committed by guards placed on the property for protection. . . . In cases of robbery it is almost impossible to detect and punish the perpetrators, for the fact is not generally ascertained until days or weeks afterwards and the precise time cannot be estimated. . . ." Haupt to Colonel E. S. Sibley, December 7, 1862, Haupt Letterbook, 1862-63, pp. 83, 85.

position. Stanton, not wishing to lose face by formally rescinding his own order, sent Watson and Meigs to inform Haupt the issue was dropped.⁷³ Haupt was much relieved, for he considered the matter an attempt by the quartermaster's department to shift the responsibility of accounting for shortages. This was a more astute idea than the ". . . burning of depots, a plan resorted to occasionally."⁷⁴

Burnside's plans for a movement to Fredericksburg did not escape the watchful eye of Lee. On November 19 he suggested that Burnside might be moving toward the town, but the next day he was more assured and he telegraphed Jefferson Davis, "I think Burnside is concentrating his whole army opposite Fredericksburg."⁷⁵ Lee arrived at Fredericksburg on November 20, three days after the advance units of Burnside occupied Falmouth, across the river.⁷⁶ On November 22 Haupt suggested to Burnside that he cross the river immediately before the enemy could concentrate his forces and dispute his crossing. Haupt thought that in the absence of a bridge across the river at that point, the Army of the Potomac could be supplied on the south bank by water until Haupt threw up a railroad bridge to supply the

⁷³Haupt, Reminiscences, pp. 164-165.

⁷⁴Ibid., p. 165.

⁷⁵Robert E. Lee to Jefferson Davis, November 20, 1862, Dowdey, The Wartime Papers of Robert E. Lee, p. 341.

⁷⁶Haupt, Reminiscences, p. 168.

projected advance on Richmond.⁷⁷ But Burnside waited in an effort to consolidate his position and awaited the arrival of several pontoon bridges which were delayed eight days, giving Lee ample time to choose a strong fortified position across the river from which to contest Burnside.⁷⁸

As Burnside sat on the north side of the Rappahannock for over three weeks, Haupt superintended the supplying of the army to Falmouth and awaited the coming battle. During the lull, he returned to Washington where on December 7 he appeared at McDowell's court of inquiry. Haupt testified for the defense and was examined by McDowell on the reconstruction of the railroads and bridges in April and May of 1862, preparatory to the projected advance on Richmond. Haupt testified that McDowell gave him all the aid he desired and in several instances anticipated his needs.⁷⁹ After a rather lengthy testimony, Haupt heard

⁷⁷Haupt to Burnside, November 22, 1862, ibid., p. 169.

⁷⁸Williams, Lincoln and His Generals, p. 196.

⁷⁹Haupt was closely examined by McDowell on McDowell's relations with the inhabitants of the countryside during April and May of 1862, particularly whether lax discipline in McDowell's command had led to a reported murder and a rape. Haupt testified that the murder was the result of a case of bad judgment or character of one man, but the rape ". . . had been perpetrated by one of the numerous stragglers . . . from whose ravages not a single farm-house in the vicinity was exempt, except those guarded and not always even then." Haupt's Testimony, December 6, 1862, Official Records, XII, Pt. 1, p. 78.

that Governor George Dennison of Ohio remarked to McDowell that he had never heard ". . . any testimony more clear headed and to the point." To which McDowell replied, "Of course not. If you knew Haupt you would not expect anything else."⁸⁰

Haupt returned to Falmouth on December 8 to make arrangements for guarding the railroad from Aquia Creek and then returned to Alexandria to make preparations for throwing up a bridge across the Rappahannock after Burnside crossed the river. Winter had arrived and low water and ice in the Potomac made it difficult for transports to unload at the wharf at Aquia Creek.⁸¹ Haupt wrote his wife that ". . . the men in camps have suffered considerably. Some whose vital powers have not been active have died."⁸² Despite the weather, Burnside decided to move, and Haupt went to Falmouth on the twelfth and arranged for a detail of 200 men to throw up the bridge.⁸³

On December 12 Burnside started passing his army over the river on three pontoon bridges, with Lee allowing

⁸⁰Herman Haupt to Anna Cecilia Haupt, December 7, 1862, Unpublished Correspondence, p. 20.

⁸¹Sparks (ed.), The Diary of Marsena Rudolph Patrick, p. 186.

⁸²Herman Haupt to Anna Cecilia Haupt, December 9, 1862, Unpublished Correspondence, p. 21.

⁸³Haupt to W. W. Wright, Superintendent, December 11, 1862, Haupt Letterbook, 1862-63, p. 88.

him to cross and occupy Fredericksburg without a fight. On the thirteenth Burnside attacked Lee, who was strongly entrenched on Marye's Heights. Haupt's force of 200 civilians retired from their bridge building to the nearest hill as soon as the battle commenced in order to watch the fight and Haupt went to Burnside's headquarters to watch the battle, where he remained all day.⁸⁴ He wrote his wife during the fighting that, "this morning the action was resumed and is now raging, the cannonading incessant, sometimes fifty to a hundred shots in a minute. The musketry resembles the firing of packs of crackers. . . . Fredericksburg is well riddled with shot and shell and many of the houses burned; it is just now a very hot place, the shells are exploding in it in every direction. If this battle continues long there will not be much left of it."⁸⁵ Haupt left Burnside for an hour during the battle and walked down to where the bridge was to be built and described his baptism of fire. "Quite a number of shells burst near me during the hour I was at the bridge but I found I could take it coolly and did not dodge or get behind trees. The whistling of bullets I did not like quite so well. These

⁸⁴Haupt, Reminiscences, p. 176.

⁸⁵Haupt described the air as being ". . . so smoky that I can see but little, the powder smoke forms a dense cloud." Herman Haupt to Anna Cecilia Haupt, December 13, 1862, p. 22.

minnies are ugly affairs."⁸⁶ Burnside had walked into a trap at Fredericksburg, and his army took over 12,000 casualties assaulting the Confederate positions. Burnside was so badly beaten there was some doubt he could recross the river safely.⁸⁷

The morning after the battle Haupt obtained another detail of carpenters and set them to work on both sides of the bridge. Haupt then crossed over to Fredericksburg and walked around the depot where the corpses still lay unburied and went up the road toward Marye's Heights. As he stood on some piles of timber for a better view, he heard firing about two or three hundred yards ahead of him, but since it was not returned he remained unconcerned. Only when he returned to the depot did he discover that the firing was from Rebel sharpshooters and not friendly forces. "I had unconsciously walked half way over to the rebels, . . . not supposing that I was in a position of so much exposure. But I suppose the very apparent boldness of the thing kept them from firing at me. Perhaps they thought I must be a surgeon or some privileged character."⁸⁸

⁸⁶Haupt wrote prophetically during the battle "from the position of the contending armies the casualties will probably be large and I shall be kept very busy for some days." Ibid.

⁸⁷Williams, Lincoln and His Generals, p. 199.

⁸⁸Herman Haupt to Anna Cecilia Haupt, December 15, 1862, Unpublished Correspondence, pp. 25-26. Haupt, in Reminiscences, p. 195, erroneously dates this incident as May 4, 1863.

Haupt returned to Washington that evening and with Covode called on Lincoln to give a first-hand report of the battle. Haupt's report so upset Lincoln that the three men walked over to Halleck's house to confer on what steps to take. Haupt repeated his testimony in front of Halleck, and Lincoln asked Halleck to order Burnside to immediately cross the river, which Halleck refused to do. Haupt explained to Lincoln that Burnside occupied a tenable position on the south side of the river and was in no immediate danger and Halleck won the argument.⁸⁹ Haupt wrote his wife that "the President remarked that as far as his observations extended, our friend Haupt had always come up to time in his department better than almost anyone else; to which Halleck cordially acquiesced."⁹⁰

The failure of Burnside to capture Fredericksburg ended an unparalleled year of frustration and defeat for Northern armies in the eastern theater. McDowell, McClellan, Pope, and now Burnside had commanded the army and had all shown promise that they would pursue the Rebels to the very gates of Richmond, and yet at the end of the year the Union army was not even south of the Rappahannock. The newspapers mercilessly berated the administration for its

⁸⁹Haupt, Reminiscences, p. 177.

⁹⁰Herman Haupt to Anna Cecilia Haupt, December 15, 1862, Unpublished Correspondence, p. 26.

endless bumbling and incompetence.⁹¹ Haupt characterized Lincoln after the battle of Fredericksburg as ". . . an honest and good man but never was a poor mortal more harassed."⁹² To lift the onus of defeat from the Republican administration, the radical Republicans, who controlled the Committee on the Conduct of the War, swung their investigative machinery into action looking for a convenient and Democratic scapegoat.⁹³

Haupt was not interested in the political aspects of the investigation for prior to the Civil War he was largely apolitical. In Massachusetts he worked well with the Republican administration of Banks, but was ousted from his contract by the Republican administration of Andrew. However, in Washington the non-partisan Haupt slowly evolved an allegiance to the Republican party probably as the result of his friendship with Covode, one of the most active of the radical Republicans, and with few exceptions Haupt remained within the party until the end of his life.⁹⁴ When Covode

⁹¹T. Harry Williams, Lincoln and the Radicals (Madison: The University of Wisconsin Press, 1941), pp. 199-200.

⁹²Herman Haupt to Anna Cecilia Haupt, December 16, 1862, Unpublished Correspondence, p. 26. This letter is dated the 16, but internal evidence indicates it was written on the 18th.

⁹³Williams, Lincoln and the Radicals, pp. 201-202.

⁹⁴Haupt's granddaughter characterized Haupt as a "consistent Republican." Mrs. Susan Haupt Adamson to author, May 7, 1968.

and the Committee on the Conduct of the War started an investigation after Burnside's defeat, Haupt was drawn into it, not to attempt to place the blame for defeat or to exonerate the Republican party, but rather because he thought that Congressional pressure for a change in command of the army might bring some new and energetic blood into the military leadership.⁹⁵

After the meeting with Lincoln on the fourteenth, Haupt and Covode left for Falmouth the next night to inspect the condition of the army and arrived on the sixteenth, just as Burnside completed his retreat to the north side of the river. Haupt sent his bridge corps back to Aquia Creek, and he and Covode went to see Burnside. When they found Burnside he ". . . looked careworn and anxious."⁹⁶ Burnside asked Haupt for a private conference but Haupt refused and after the three men talked, Haupt and Covode left again for Washington. They met with Lincoln on the evening of the seventeenth, and Covode explained in great detail the dispirited condition of the army. Lincoln listened, then replied, "Covode, I beg you not to tell me anything

⁹⁵Haupt was also probably drawn into the investigation because he was an eyewitness to the slaughter at Fredericksburg and because he was able to furnish transportation to the front for members of the Committee on the Conduct of the War at any hour on an instant's notice.

⁹⁶Herman Haupt to Anna Cecilia Haupt, December 16, 1862, Unpublished Correspondence, pp. 26-27.

more of that kind. You will drive me crazy. I have as much on me as I can bear."⁹⁷ Haupt left the meeting and later wrote his wife describing Lincoln as that "poor man, I have a deep sympathy for him, but what is to be done? I do not know. We want a general. We have not yet found him. The country seems drifting rapidly to destruction, but the Lord is over all."⁹⁸

After leaving Lincoln, Haupt and Covode went to Covode's room where the other members of the committee were present. Several members decided to leave that evening and go to Burnside's headquarters and conduct their inquiry. They asked Haupt to accompany them, and Benjamin Wade, Covode, Haupt and others went to Aquia Creek where they spent the night, and continued their journey on a special train provided by Haupt and arrived at Falmouth on the eighteenth.⁹⁹ The committee spent two days at Falmouth and examined Generals Burnside, Sumner, Hooker, Franklin, and Haupt, after he had found quarters for the drunken sergeant-at-arms of the senate who had accompanied the committee.¹⁰⁰ If the committee went to Falmouth for the express purpose of finding a scapegoat, Haupt knew nothing

⁹⁷Ibid., p. 27. ⁹⁸Ibid.

⁹⁹Herman Haupt to Anna Cecilia Haupt, December 22, 1862, Unpublished Correspondence, p. 27.

¹⁰⁰Sparks (ed.), The Diary of Marsena Rudolph Patrick, pp. 193-194.

about it. Two days after the Congressmen left, Haupt wrote his wife "I do not know what the report of the War Committee will be but it seems necessary to make radical changes all around. We have no generals of ability and no statesmen. The rebels have both, hence their advantages."¹⁰¹

Haupt was becoming impatient with merely examining the generals and concluded that more radical steps must be taken to straighten out the leadership situation. He reasoned that the whole command structure of the United States government should be reconstituted to take some of the burden off Lincoln while at the same time relieving the commander in the field of his prerogative for independent, and often foolish, action. Haupt took his plan to Covode and members of the committee and obtained their approval, and Covode asked Haupt for a formal letter embodying his plan to present to the President.¹⁰² On December 22 Haupt wrote Lincoln and outlined his proposal. He declared that another attack on Fredericksburg would be suicidal and to stand still would accomplish nothing. If the army was sent

¹⁰¹Herman Haupt to Anna Cecilia Haupt, December 22, 1862, Unpublished Correspondence, p. 27.

¹⁰²Herman Haupt to Anna Cecilia Haupt, December 25, 1862, Unpublished Correspondence, p. 28; Haupt spent Christmas Eve with General McDowell and his wife. Haupt remarked that McDowell ". . . is coming out as bright as a dollar. . . . He is conducting his case with singular ability . . . [and] even the newspapers which were most abusive against McDowell are now much in his favor." Ibid.

back to the Peninsula it would advertise the stupidity of leaving in August, but nevertheless since the road to Richmond through Fredericksburg was blocked, the Peninsula was the only route open. He recommended that the army be deployed as it was in May of 1862 with part of it on the Peninsula and part of it at Fredericksburg, but under new commanders. Since it would be politically inadvisable to reposition the armies as they were without the same commanders, Haupt dreamed up a neat ploy to satisfy the deposed generals. He proposed a board of seven members composed of Lincoln, Stanton, McClellan, McDowell, Halleck, and two men of Lincoln's choice, which would shoulder the responsibility for ". . . all plans of campaign and important military measures . . . [and] take cognizance of all measures for promoting the efficiency and economy of the service."¹⁰³ All orders would still emanate from the President as commander-in-chief, but ". . . members of the council could be sent to the theaters of important operations to represent you with discretionary powers within such limits as you or the council might prescribe." Haupt thought this ". . . would satisfy the public demand for a change of military administration, . . ." and concluded, "I fear that we have relied too much on our strength and resources and have forgotten that the race is not always to

¹⁰³Haupt to Lincoln, December 22, 1862, Unpublished Correspondence, p. 30.

the swift nor the battle to the strong."¹⁰⁴

Haupt's proposal, while a clever solution to the bickering among generals and politicians, would effectively erode the constitutional powers of the President, as well as the freedom of the officers in the field. Essentially the plan went against Haupt's often stated principle that there should never be more than one authority over any project. He had squabbled on the Pennsylvania Railroad and earlier on the military railroads when his authority was infringed, and there is no reason to suppose that Lincoln did not see it the same way. Haupt gave his letter to Covode to present personally to Lincoln but after two attempts in which Lincoln would not receive him, it was returned to Haupt. Haupt wrote a covering letter to Lincoln explaining that he had no personal motives other than patriotism for making the recommendations and stated that after almost two years of war the North was no nearer victory than it had been in April of 1861. "Temporizing will not answer. The nation has faith in you, in your perfect integrity, your incessant labors, . . . but there is but little confidence in your cabinet and I fear that without the most radical changes it will be impossible to increase the armies of the union. . . ."¹⁰⁵ Haupt then sent the two

¹⁰⁴Ibid.

¹⁰⁵Haupt to Lincoln, December 26, 1862, Unpublished Correspondence, pp. 31-32.

letters to Lincoln, but nothing more was heard of his proposals and the issue died.

Congress had adjourned until after New Year's day, and Burnside was not likely to advance again soon. Consequently the railroads would have little difficulty in supplying a stationary army. Haupt wrote Halleck requesting a leave of absence to return to Massachusetts where a new legislative session was about to commence and when Halleck did not answer, Haupt left for Cambridge on the evening of December 30.¹⁰⁶

¹⁰⁶Haupt to Halleck, December 28, 1862, Unpublished Correspondence, pp. 32-33.

CHAPTER XII

FROM GENERAL TO CIVILIAN

The start of another legislative session in Massachusetts found Haupt in attendance and apprehensive over the course the lawmakers would take. The tunnel investigation had been moving slowly and a report had not yet been made public, but the capital abounded with rumors which upset Haupt. He wrote Halleck, "I am informed that a project is on foot to reject my plans, change my location, . . . kick me out entirely without compensation, and appropriate the results of my labors and expenditures for the last six years." Worst of all, Haupt feared that the Western Railroad had sufficient support in the legislature to gain control of the Troy & Greenfield and the tunnel, stopping all work permanently.¹

Haupt remained in Boston less than two weeks, for Burnside had revived his nerve and was planning to recross the Rappahannock to attack Lee, and Haupt was recalled to

¹Haupt to Halleck, January 7, 1863, Unpublished Correspondence, p. 33; Late in December, Haupt finally agreed to relinquish all his claims against the Troy & Greenfield Railroad, giving the state a clear title. Haupt to Cartwright, December 22, 1862, Haupt Letterbook, 1862-63, p. 100; Haupt to Cartwright, December 23, 1862, Haupt Letterbook, 1862-63, p. 110.

support the move.² He returned before January 13 to prepare for the advance by reorganizing his command. He split the organization into two groups, construction and transportation, and appointed Adna Anderson, later chief engineer for the Northern Pacific, in charge of the construction department with a permanent detail of 500 men. Responsibility for conducting transportation was given to William W. Wright, a former student of Haupt's in Gettysburg and assistant engineer on the Pennsylvania Railroad.³ The division of responsibilities provided that in Haupt's absence the chain of command was well defined and the department would function more smoothly.⁴

On January 19 Haupt went to Burnside's headquarters, which he had some difficulty in locating. He commented caustically that it ". . . seems to be the practice of the Generals in Chief, McClellan especially, to get as far out of reach as possible, no doubt to keep off visitors."⁵

²Lincoln and His Generals, p. 204.

³Haupt, Washington, to E. Stratton, January 13, 1863, Haupt Letterbook, 1862-63, p. 139; Haupt to Burnside, January 17, 1863, Haupt Letterbook, 1862-63, p. 142; Haupt, Reminiscences, p. 314.

⁴Wright was unhappy over what he considered a demotion and wrote Haupt about it in no uncertain terms, but Haupt managed to smooth things over. Haupt to Wright, February 3, 1863, Haupt Letterbook, 1862-63, p. 172; Both Wright and Anderson operated the military railroads that supported Sherman in 1864.

⁵Herman Haupt to Anna Cecilia Haupt, January 25, 1863, Unpublished Correspondence, p. 34.

Haupt made arrangements for Burnside to send him a signal of "ready" as soon as the river was crossed, when a crew would immediately begin construction of a bridge.⁶ Burnside commenced his advance on January 21, but from the start things did not go well. Haupt described the scene to his wife: "a tremendous storm arose, the winds blew and the rains descended, vessels were smashed, barges blown high and dry on shore, wharves knocked to pieces. The movement had commenced, the soldiers, without knapsacks, blankets or shelter, were exposed to the storm, which continued three days. The roads became impassable, artillery stuck in the mud. . . . The whole enterprise was a failure."⁷ Another Union commander had failed, and on January 25 Lincoln relieved Burnside and appointed Major General Joseph Hooker to replace him.⁸

During the lull following the change of commanders, Haupt occupied himself with the publication of another book. In early January, Haupt wrote to D. Appleton & Company suggesting that the ideas he had received in answer to his circular on naval affairs might make a good book.⁹ Evidently Appleton's did not think so, but Haupt was undaunted and decided to write a book on military bridges

⁶Ibid. ⁷Ibid. ⁸Haupt, Reminiscences, p. 184.

⁹Haupt to D. Appleton & Co., January 14, 1863, Haupt Letterbook, 1862-63, p. 139.

instead, and in characteristic fashion immediately set to work. By January 28 he wrote his wife that "I have several hundred foolscap pages, and in the course of another week or two weeks at the outside, I expect to have the work on military bridges finished and ready for the press."¹⁰

Haupt wrote the bulk of the book between January and March, but it did not appear until 1864, when it was published by D. Van Nostrand under the title of Military Bridges.¹¹ The book, in contrast to his earlier work, was not theoretical, but rather an instructional handbook aimed at the staff officers of the Army of the Potomac. Haupt explained in the preface that an engineer or staff officer need only possess resourcefulness, which ". . . is almost omnipotent; with it, few impossibilities are found; without it, slight impediments become insurmountable difficulties."¹² Haupt drew heavily on his experiences with the military railroads and presented plans for building suspension, trestle, truss, floating, and pile bridges, complete with instructions for building a pile driver, approaches,

¹⁰Herman Haupt to Anna Cecilia Haupt, January 28, 1863, Unpublished Correspondence, p. 35.

¹¹Hermann [sic] Haupt, Military Bridges: With Suggestions of New Expedients and Constructions for Crossing Streams and Chasms. Including also, Designs for Trestle and Truss Bridges for Military Railroads. Adapted Especially to the Wants of the Service in the United States (New York: D. Van Nostrand, 1864).

¹²Ibid., p. iv.

and floating warehouses. He also included descriptions of his innovations in portable bridge and track-wrecking devices and his later invention of the blanket boat constructed of India-rubber blankets or waterproof tenting, capable of ferrying men, artillery and even horses across rivers.¹³

Haupt detailed European methods of crossing streams and rivers and innovations developed and used in the past. He also included plans for the protection of railroads and bridges during wartime, including mines, blockhouses, and stockades, used at one time or another by Haupt in Virginia. The book concluded with sixty-nine lithographic plates giving exploded views and detailed instructions for the construction of the innovations contained in the text. There are no records of the sales of the volume, but it may be conjectured that after the Civil War ended, the relevance of the book was diminished, at least in the United States.

Two days after Hooker assumed command of the Army of the Potomac, Haupt wrote to firmly impress upon him the problems the military railroads faced and to give an outline of their organization.¹⁴ Unlike Pope, Hooker accepted

¹³Haupt invented the blanket boat in early February and sent Hooker a detailed description, see: Haupt to Major-General Joseph Hooker, February 7, 1863, Haupt Letter-book, 1862-63, p. 186.

¹⁴Haupt to Hooker, January 27, 1862, Haupt, Reminiscences, pp. 184-185.

the railroads as organized under his predecessor. Thus, Haupt's relationship remained unchanged, but looking to the future, he wrote his wife, "these changes amount to nothing as far as active operations are concerned, the army is immovable, stuck in the mud. Changing generals will not remove it."¹⁵ With the railroads running on a routine schedule and no immediate military operations in sight, Haupt left Washington on February 7 to return to Boston.¹⁶

The Massachusetts legislature had been in session for over a month, and yet the long awaited report of the commissioners which Haupt expected momentarily had not yet been made public. As the weeks passed, Haupt languished in Boston awaiting the report, maintaining a regular correspondence with Adna Anderson, and giving instructions to keep the construction corps busy and to requisition necessary supplies for the railroads.¹⁷ Haupt was rapidly becoming irritated at the delay of the report and wrote Watson that he had ". . . good reason to believe that the Commissioners appointed by Governor Andrew are maneuvering to keep back their report until the close of the session so as to deprive me of any opportunity of action or defense, and then

¹⁵Herman Haupt to Anna Cecilia Haupt, January 28, 1863, Unpublished Correspondence, p. 36.

¹⁶Haupt to Hooker, February 7, 1863, Haupt Letterbook, 1862-63, p. 188.

¹⁷Haupt to Adna Anderson, February 10, 17, 23, 1863, Haupt Letterbook, 1862-63, pp. 195, 197, 200.

seek to damage me all in their power with a view to justify the arbitrary course of the Governor."¹⁸ To force the governor's hand, Haupt succeeded on February 25 in getting an order passed in the Senate asking the governor to present the commission's report to that body immediately. However, two more weeks passed with no action by Andrew, and since Haupt had been absent from Washington for over a month, he returned on March 10.¹⁹

Haupt was now convinced that he was not going to be allowed to reassume the contract for digging the tunnel and had become reconciled to the fact that he was very probably going to absorb a large personal loss. However, he was determined that if he could not save his property at least he could save his engineering reputation by seeing that whoever resumed the work would follow his general plans for the tunnel and railroad to demonstrate that had he been allowed to continue, the work would have been completed satisfactorily. To this end Haupt corresponded with Samuel Felton in an effort to impress upon the commissioners the wisdom of adopting his drilling apparatus, his location of the railroad and the tunnel, and employing Cartwright to direct the work. Haupt also wanted the \$175,000

¹⁸Haupt to Watson, February 26, 1863, Haupt Letter-book, 1862-63, p. 202.

¹⁹Ibid.; Haupt had little work to do so he took some samples of torpedoes for destroying bridges and a small suspension bridge he had constructed and went to headquarters and demonstrated them for General Marsena Patrick. Sparks (ed.), The Diary of Marsena Rudolph Patrick, pp. 221-222.

appropriated by the 1862 legislature, which had not yet been allocated, to be apportioned to pay both the bills for materials and the loans from Griswold that had been used to pay off the hands when the work was suspended.²⁰ Felton wrote Chairman Brooks asking him to profit by Haupt's experience in the contract and to consult with him on technical questions, but Brooks found it politically inexpedient to do so.²¹

Two days after Haupt left Boston, Andrew presented the commissioners' report which gave Haupt little solace outside of the avowed determination to complete the railroad and tunnel.²² The commissioners had sent an engineer, Charles Storrow, to Europe to examine the tunnels there, particularly the Mt. Cenis operation, and he advised that the European compressed air drilling apparatus be adopted for the Hoosac instead of Haupt's steam drill and the enlargement of the tunnel to double-track. Storrow also recommended the digging of a central shaft to provide the ventilation Haupt held was not needed, and the damming of the Deerfield River to provide the waterpower for compressed

²⁰Haupt added that the \$175,000 appropriated by the legislature had been ". . . so long withheld as to lead me to suspect that good faith is again to be violated by seeking the repeal of that section." Haupt to Felton, November 26, 1862, Samuel M. Felton Collection.

²¹Chapman, "Haupt, revised," 1863, p. 5.

²²Boston Daily Advertiser, n.d., Haupt scrapbook, pp. 84-86.

air, which Haupt opposed.²³

Engineers Benjamin Latrobe and James Laurie, authorized by the commissioners to examine the Hoosac Tunnel and the railroad, delivered a stinging condemnation of Haupt's work. They described the location of the Troy & Greenfield as "essentially a contractor's line; such a one as might fairly be anticipated where the contractor and engineer were the same person; intensified, if possible, by his controlling a majority of the stock. Everything has apparently been sacrificed to save present outlay."²⁴ They went on to characterize the slopes of the roadbed as too steep, the culverts as too small, and the trestlework as too weak. They saved some rancor for the Green River bridge which they described as "bad in design, insufficient in materials, and faulty in workmanship," but conceded that "this bridge might be propped up for temporary use. . . ."²⁵ They described the tunnel as not being a full size single-track tunnel except at the portals--its top sometimes being larger than the base and full of dips and curves that made it impossible to pass even one train through the completed portions.²⁶

²³Ibid., p. 85; Chapman, "Haupt, revised," 1863, pp. 5-8.

²⁴Boston Daily Advertiser, n.d., Haupt scrapbook, p. 85.

²⁵Ibid. ²⁶Ibid.

Brooks included with the report a confidential letter to Andrew, which was also made public on March 12, accusing Haupt of receiving an overpayment of \$300,000. He suggested that the state retrieve at least a portion of the overpayment by bringing suit against Haupt to recover the loss on the bonds resulting from issuing them at \$4.444 and having to redeem them on the London market at \$4.91, amounting to \$53,307. The computations used to prove the rest of the overpayment involve some mathematical intricacy. Haupt had been paid by the state for work on the Troy & Greenfield in bonds issued on a ratio of work completed to the estimated total cost of the road. Thus, using the original estimate, Haupt had collected money for completing seventy-four percent of the work, but Brooks raised the estimated total of finishing the line, and claimed that under the new estimate Haupt had really only completed fifty-three percent of the work, resulting in an overpayment of \$131,388. Brooks then took this figure and added it to the \$140,277 in claims against H. Haupt & Company by unpaid subcontractors and suppliers, giving an overpayment of \$271,565. When this was added to the alleged profit squeezed by Haupt from bond sales, Brooks found that Haupt had bilked the state for \$324,872.²⁷

Andrew addressed the legislature and recommended

²⁷Ibid.; Chapman, "Haupt, revised," 1863, pp. 15-18.

that the state assume the responsibility for the contract. He asked the legislature to appropriate enough money to carry the work, which he estimated would cost, including the previously made payments, a total of \$5,719.330.²⁸ Andrew added that the feasibility of driving the tunnel had been established without a doubt, unwittingly paying tribute to Haupt, who could find little comfort in any of the report.²⁹

In fact, he was furious. Haupt left for Boston on March 18 determined to present a memorial to the Senate in an attempt to clear his name. He no sooner arrived in Boston than he received an urgent telegram from Stanton to return to Washington to consult with him. Haupt penned a hurried memorial, left it with a senator for introduction, and returned to the capital in time to be in Stanton's office on the twenty-fourth.³⁰

Stanton had called Haupt for a report on the condition of the military railroads, about which he had heard nothing for several months. Haupt replied ". . . that this was the very highest compliment he could have paid, before I came he heard of them every day, but now everything moved

²⁸Boston Daily Advertiser, n.d., Haupt scrapbook, p. 85.

²⁹Chapman, "Haupt, revised," 1863, p. 12.

³⁰George L. Fall to Stanton, March 26?, 1863, Haupt Letterbook, 1862-63, p. 208; Haupt, Reminiscences, p. 188.

so smoothly that it was like clockwork."³¹ Haupt gave a short report, after which Stanton asked him about the condition of the railroads used for government transportation in the Southwest and West. Haupt was taken aback, for McCallum, who was in Washington, would have been the logical person to answer these questions, but Haupt answered that he knew nothing of the railroads in question. Stanton then directed him to travel west and investigate.³² The last thing Haupt wished to do was to take a trip of several months' duration that would effectively prevent him from going to Boston when his memorial was before the Senate. However, he agreed to go and wrote out a copy of the instructions he felt he needed to gather the information and gave them to Stanton for approval. Haupt then went to Hooker's headquarters to inform him of the projected absence, but Hooker protested and telegraphed Stanton that he needed Haupt for upcoming operations and requested that he be allowed to remain, which was just what Haupt hoped Hooker would say. Stanton complied and asked Haupt to choose a reliable substitute.³³

³¹Herman Haupt to Anna Cecilia Haupt, March 25, 1863, Haupt Papers, Box 4.

³²Haupt wrote his wife that Stanton ". . . said that if he had known that my time was so important he would not have telegraphed so urgently. . . ." Ibid.

³³Haupt to Stanton, March 24, 1863, Haupt Letter-book, 1862-63, p. 209; Haupt, Reminiscences, pp. 188-189.

Haupt chose F. J. Forbes, a Boston newspaper correspondent, to make the western inspection for him, and Stanton approved the selection on April 21.³⁴ The same day Haupt wrote out a set of detailed instructions for Forbes which amounted to taking a census of the railroads and their possessions. Haupt was particularly interested in the accounting procedures and condition of supplies, reliability of the railroads and the prices charged the government.³⁵

Forbes left immediately but did not make his first report to Haupt until the middle of June. Haupt forwarded extracts of Forbes' report to Stanton which indicated that the quartermaster's department in Tennessee was guilty of laxity and waste. Forbes found railroad iron under water at Nashville, 65,000 sacks of corn stored in the open and sprouted, 80,000 boxes of spoiled bread, and a lack of harmony between the railroad officials and the quartermaster's department.³⁶ Forbes continued to St. Louis where he found

³⁴Stanton did not seem to be in a hurry to send an investigator west. Haupt turned in Forbes' nomination April 10 and Stanton approved it eleven days later after several letters from Haupt urging him to do so. Haupt to F. H. Forbes, April 10, 1863, Haupt Letterbook, 1862-63, p. 230; Haupt to Forbes, April 21, 1863, Haupt Letterbook, 1862-63, p. 243.

³⁵Instructions enclosed in Haupt to Forbes, April 21, 1863, Haupt Letterbook, 1862-63, pp. 244-245.

³⁶Haupt to Stanton, June 27, 1862, Haupt Letterbook, 1862-63, pp. 377-386; Haupt sent a second report of Forbes' the same day to Stanton, which showed that salaries paid to

". . . everyone is marked with dishonesty"³⁷ and the railroads in a deplorable state. Forbes' last report to Haupt was dated August 31, and written in Louisville, Kentucky, where he discovered the railroad officers were unable to manage their property and suggested an independent military railroad bureau be established in the West to operate directly under the orders of the commanding general of the department.³⁸ Haupt passed Forbes' suggestions to Stanton but never discovered whether anything was done about the reported abuses. Nothing more was said about Haupt's personally inspecting the western railroads.³⁹

Haupt was still angry over the commissioners' report and on March 26 he wrote his wife that he had received ". . . letters informing me of the refusal of the Senate to print the memorial and I am of course highly incensed and indignant, feeling tempted to take my family and leave the state forever."⁴⁰ But four days later he was able to write, "I have got over my indignation to some extent, but I did

western railroadmen were about twice as high as on the Virginia railroads. Haupt to Stanton, June 27, 1863, Haupt Letterbook, 1862-63, pp. 388-397.

³⁷Haupt to Stanton, June 27, 1863, Haupt Letterbook, 1862-63, p. 380.

³⁸Forbes to Haupt, August 31, 1863, Quartermaster General's Office Records, p. 30.

³⁹Haupt, Reminiscences, p. 190.

⁴⁰Herman Haupt to Anna Cecilia Haupt, March 26, 1863, Haupt Papers, Box 4.

feel savage at the Governor and at some of our pretended friends, they think the tunnel will be finished sooner by sacrificing me, but it is a mistake, my plans if carried out would finish the tunnel 2 or 3 years sooner than theirs."⁴¹

Haupt's temper was soothed a little more when the senate finally allowed his memorial to be printed at the end of March. The document was surprisingly moderate in tone, considering it was written only a week after the commissioners released their report. Haupt gave a short history of the Hoosac and made only three requests of the legislature: that the tunnel not be turned over to the Western Railroad, that the appropriation of 1862 be increased to pay all the claimants of H. Haupt & Company, and that some of the money be paid to banks who accepted Haupt's paper, endorsed by the subcontractors, and who were thus the real losers by the shutdown. Haupt concluded by praising Storror's report on European tunnels, but recommended that Gwynn's drill be used instead of the compressed air models, indicating that development of a new drill by the commissioners would run afoul of Gwynn's pending patent rights.⁴² However, the senate did not act on Haupt's

⁴¹Herman Haupt to Anna Cecilia Haupt, March 30, 1863, Haupt Papers, Box 4.

⁴²Commonwealth of Massachusetts, Memorial of H. Haupt, Senate Doc. No. 95, March, 1863.

memorial, giving precedence to trying to raise the necessary funds to allow the state to carry on the work. Haupt's claims could wait.⁴³

While Haupt had been trying to defend himself in Massachusetts, Hooker had been reorganizing the Army of the Potomac to ready it for the campaigns of 1863. In April the two armies faced each other across the Rappahannock at Fredericksburg in the same positions they had occupied for five long months. In the absence of any information on Hooker's plans, Lincoln journeyed to headquarters early in the month to see if Hooker did indeed have a plan, and if so, to prod him into action.⁴⁴ Hooker proposed to once again cross the Rappahannock and attack Lee, but instead of a frontal assault like that of Burnside's, he proposed to cross three corps thirty miles up the river on Lee's left and try to roll up Lee's flank while the rest of the Union army captured Fredericksburg, trapping Lee's army in a vise. Lincoln approved the plan, but unfortunately the spring rains began, turning the roads in the area into a sea of mud and Hooker had to wait until better weather.⁴⁵ Haupt's

⁴³Although Haupt's anger quickly subsided, his wife's did not. He wrote her that "I was pained to hear that you allowed the tunnel matter to agitate you so seriously, but it is your way. You should have kept away from the state house, people were informed you were out of your mind." Herman Haupt to Anna Cecilia Haupt, April 14, 1863, Haupt Papers, Box 4.

⁴⁴Williams, Lincoln and His Generals, p. 233.

⁴⁵Ibid., pp. 233-235.

role in the assault was once again to be prepared to throw a railroad bridge across the river when the Union troops secured the other side.⁴⁶

Haupt had been designing and constructing portable truss bridges at Alexandria under the direction of Adna Anderson. These bridges were built in interchangeable sections sixty feet long which could be carried on a railway car and immediately thrown across any opening.⁴⁷ The Potomac Creek bridge which had been replaced in September of 1862 was aging, and Haupt decided to replace it with one of the new portable trusses. When he approached Hooker with his plans, Hooker refused to permit the new bridge because he was frantically storing up supplies for his foray across the river and could not afford to have his rail transit broken for several days. Haupt assured Hooker that not a single train would be delayed by the construction, and although Hooker really did not believe him, he gave Haupt permission to go ahead.⁴⁸ Haupt had constructed three special spans at Alexandria to cross the 400-foot gorge and about April 1 he had them brought up on a construction train. In one and a half days he replaced the old bridge

⁴⁶Haupt, Reminiscences, p. 194; Haupt to Anderson, March 28, 1863, Haupt Letterbook, 1862-63, pp. 214-215.

⁴⁷Haupt, Military Bridges, p. 40.

⁴⁸Haupt, Reminiscences, pp. 193-194.

piecemeal without interrupting service.⁴⁹

During April Haupt settled down to await the coming advance and tended to the routine operation of the railroads. Each morning he left his rented home in Georgetown which he shared with Gwynn, and went to Alexandria to await word to move his construction corps to Falmouth.⁵⁰ Haupt wrote his wife on April 18 that "Washington is full of rumors and excitement. Great anxiety is felt at the War Department and all the other Departments to know what Hooker is doing. . . . Perhaps I am the only one in Washington who was informed as to what the plan and time of attack is."⁵¹ Haupt had been informed, but the constant rain postponed the attack again and again.

On April 30 Hooker and the three corps that were to attack Lee's left flank crossed the Rappahannock and started towards Fredericksburg in high spirits.⁵² Lee took stock of the developments and by noon of the thirtieth knew Hooker's

⁴⁹Ibid., pp. 272, 275; Haupt described the new bridge as ". . . very pretty." Herman Haupt to Anna Cecilia Haupt, April 1, 1863, Haupt Papers, Box 4.

⁵⁰Herman Haupt to Anna Cecilia Haupt, April 2, 1863, Haupt Papers, Box 4; Haupt's financial situation was poor and he wrote Cartwright that "I have not a dollar of income from any source except for personal expenses and not a dollar of property of any kind to sell. My wife's income is precarious. . . ." Haupt to Cartwright, April 20, 1863, Haupt Papers, Box 6.

⁵¹Herman Haupt to Anna Cecilia Haupt, April 18, 1863, Unpublished Correspondence, p. 37.

⁵²Williams, Lincoln and His Generals, p. 238.

intentions.⁵³ Instead of fleeing before the attackers, as Hooker expected, Lee decided to attack and sent Jackson on a march around Hooker's right to attack his rear. On May 2 the Confederates launched their attack which was only partially successful, but Hooker instead of counterattacking, withdrew his forces to the river allowing the two Confederate wings to reunite. Although Hooker occupied a tenable defensive position, his plans for an advance on Richmond were dashed.⁵⁴

Haupt waited at Falmouth for Major General John Sedgewick's Sixth Corps to capture Fredericksburg in support of the flanking movement, which Sedgewick did on May 3. Haupt wrote his wife during the battle that "we fought until noon and carried everything."⁵⁵ Lincoln had not even been informed by Hooker that a battle was underway until May 3, and Haupt at Falmouth had little better information on Hooker's condition. Haupt heard that "at the latest intelligence, Hooker was victorious but the action was not final, the carnage terrible, the loss of the enemy heavier than ours. . . . Another day as successful as this and the army of Lee will be destroyed, but this is almost too good

⁵³Lee to Davis, April 30, 1863, Dowdey, The Wartime Papers of Robert E. Lee, p. 446; Lee to War Department, April 30, 1863, ibid., p. 449.

⁵⁴Williams, Lincoln and His Generals, pp. 238-240.

⁵⁵Herman Haupt to Anna Cecilia Haupt, May 3, 1863, Unpublished Correspondence, p. 39.

to hope for."⁵⁶ The next day Haupt crossed the river to Fredericksburg in anticipation of finally building his bridge and described the battlefield to his wife: "poor old Fredericksburg is well riddled. The tomb of Mary, mother of Washington, is much mutilated by the relic hunters."⁵⁷ Despite the capture of Fredericksburg, all forces withdrew under Hooker's orders to the north side of the river on the night of the fifth, and Haupt did not build his bridge. The Army of the Potomac had once again been bested by the seemingly invincible Army of Northern Virginia.

With Hooker's army again stationary and with no contemplated advance, the military railroads settled down to a routine. Haupt was as usual besieged by people seeking employment with the military railroads but was able to dissuade most applicants by informing them that the only positions open were those of a fireman, brakeman, or some other job requiring work.⁵⁸ Haupt refused to hire any relatives, stating in a recommendation for his nephew that

⁵⁶Ibid.

⁵⁷Note appended to ibid. on May 4, 1863, Haupt added that "I have a bundle of cartridges which I took from the dead body of Sergeant Frank P. Holmes, CO. A, 6th Maine Volunteers, nephew of Vice President Hamlin."

⁵⁸Haupt to Russell Sage, Jr., April 10, 1863, Haupt Letterbook, 1862-63, p. 299; Haupt to Jacob W. Haupt (no relation), August 17, 1863, Haupt Letterbook, 1862-63, p. 489.

"I have not employed under pay at this time any one who came in closer relationship to me and I prefer to maintain that position."⁵⁹ However, applications continued to pour into his office and occupy a great deal of his time.⁶⁰

After the battle of Chancellorsville, Haupt became interested in the intelligence service and urged the employment of spies in various northern cities, particularly in New York City. James W. Bascom, a self-employed amateur detective in New York City, wrote Haupt of an intricate series of negotiations in New York and New Jersey on the part of Confederate sympathizers resulting in the purchase of a steamer for blockade running. Haupt turned the letter over to Watson who returned it with the notation to refer the matter to General John Wool in New York, and Haupt did so on May 11.⁶¹ On the fifteenth Haupt recommended to Wool that he establish some system of regularized reports by Bascom whom Haupt described as having ". . . been a valuable aid to the government in ferreting out disloyalty."⁶²

⁵⁹Recommendation for Charles A. Schaeffer, May 18, 1863, Haupt Letterbook, 1862-63, p. 321.

⁶⁰Haupt himself was being sought for a job on the military railroads in Louisiana. Banks, Simsport, Louisiana, to Halleck, May 21, 1863, Official Records, XXVI, Pt. 1, p. 498.

⁶¹Haupt to Wool, May 11, 1863, Haupt Letterbook, 1862-63, p. 293; James W. Bascom to Haupt, n.d., Haupt Letterbook, 1862-63, pp. 294-295.

⁶²Haupt to Wool, May 15, 1863, Haupt Letterbook, 1862-63, p. 305.

On June 22, Haupt suggested to Stanton that Bascom be furnished with \$200 to aid in his investigations and that Wool be given \$5,000 to purchase the services of other informers.⁶³ Bascom operated for a short time, furnishing monthly reports on suspected Rebel sympathizers and residents of the city who had recently been behind Rebel lines. After the July draft riots in New York City, Bascom began an investigation into the continued resistance to the draft in that city, and concluded a month later that it was well organized, providing names of the men involved.⁶⁴ But his information was not acted upon by the war department, and Haupt had to appeal to Stanton again in August for a continuation of funds to support Bascom.⁶⁵

Although Haupt was involved in apprehending Rebels, he could appreciate the problems caused individuals by

⁶³Haupt to Stanton, June 22, 1863, Haupt Letterbook, 1862-63, pp. 359-360; Haupt to Stanton, June 22, 1863, Haupt Letterbook, 1862-63, p. 361.

⁶⁴Haupt to Major General John A. Dix, August 14, 1863, Haupt Letterbook, 1862-63, p. 476; Bascom to Haupt, n.d., Haupt Letterbook, 1862-63, pp. 474, 483-484.

⁶⁵Dix, the commander of the eastern department, including New York, declined to recognize Bascom's activities, and Haupt sought to have Stanton give Bascom some official status. In the interim, Haupt had money advanced to Bascom through J. D. Potts. Haupt to Stanton, August 14, 1863, Haupt Letterbook, 1862-63, p. 477; Haupt to J. D. Potts, August 18, 1863, Haupt Letterbook, 1862-63, p. 490; Haupt was also interested in a detective in Baltimore, who had lost his property because of the war and thereby became ". . . particularly adapted to the detection of disloyal tendencies." Haupt to Major General Robert C. Schenck, May 15, 1863, Haupt Letterbook, 1862-63, p. 306.

accusations of disloyalty. The son of an old friend who resided in York, Pennsylvania, had been discharged from the service for disloyalty without a hearing and Haupt pressed officials for a review. He wrote McDowell to intervene, and when he did not he wrote Stanton that "in a matter of as much importance, affecting the reputation and prospects of an individual for life, it would appear proper to allow the accused some chance for self-defense, some opportunity of confronting his accusers."⁶⁶ Haupt continued with a recital of the family's aversion to slavery and activities in temperance and missionary work, but there is no evidence that Stanton intervened in the matter.

On May 16 Haupt sent Halleck his final report on his experiments with portable track wrecking apparatus, accompanied with detailed instructions and photographs.⁶⁷ One of Haupt's foremen, E. C. Smeed, invented a horseshoe-shaped device that very effectively twisted rails like a corkscrew and made them unusable; it was more destructive than twisting heated rails around trees. Haupt calculated

⁶⁶Haupt to McDowell, July 20, 1863, Haupt Letterbook, 1862-63, p. 440; Haupt to Stanton, July 24, 1863, Haupt Letterbook, 1862-63, pp. 443-452.

⁶⁷Haupt to Halleck, May 16, 1863, Haupt, Reminiscences, pp. 197-203; Haupt was an early and enthusiastic supporter of photographing all aspects not only of the railroads, but battlefields and terrain as well. Haupt employed in the military railroad department Captain A. J. Russell as an official photographer, and made Russell's photographs available to the press. Haupt, Reminiscences, p. 256n; The Baltimore American, May 25, 1863, Haupt scrapbook, p. 62.

that a cavalry force of 440 men could destroy a mile of rail in one hour using Smeed's invention, while a raiding force of 5,000 cavalry with 2,200 detailed for work and the rest for protection could destroy five miles of iron in a single hour. Haupt further suggested that the cross ties be burned and the telegraph be cut at the pole and the ends of the wires be replaced without touching and covered by an insulator making the break difficult to find.⁶⁸ Haupt's plans received wide publicity and less than two months later Major General John G. Foster, commander of the department of North Carolina, reported that a raid on the Wilmington & Weldon Railroad was entirely successful and "using the plan of Col. [sic] Haupt, . . . the rails were twisted, thoroughly destroying the track for 2 miles, . . ."⁶⁹ The great advantage of Haupt's apparatus was that the Confederacy faced a severe shortage of iron rails and was forced to strip other railroads of rails if a raid rendered the iron unusable.⁷⁰

During the lull in May, Haupt kept one eye cocked at events in Boston, but they did not give him much

⁶⁸Haupt to Halleck, May 16, 1863, Haupt, Reminiscences, pp. 199n, 200-203.

⁶⁹Report of Major General John G. Foster, Department of North Carolina, July 7, 1863, Official Records, XXVII, Pt. 2, p. 859.

⁷⁰Charles W. Ramsdell, "The Confederate Government and the Railroads," The American Historical Review, XXII, 1917, 805.

assurance. He wrote to Cartwright on May 14 that "I am thoroughly outraged, disgusted and indignant with Mass. and everybody in it and if my rent were not paid in advance would feel inclined to shake the dust from my feet and quit the state."⁷¹ He did not return to Boston until the death of his youngest child, Grace Hermonia, who died on May 22, 1863, at the age of one after a lingering illness. Haupt went to Boston and took the body to Philadelphia for burial next to his other deceased children, John and Ada. Haupt did not return to Washington until June 9, when he brought Anna Cecilia and his eldest son, Jacob, for a visit.⁷² A photograph taken in the garden behind Haupt's rented home in Georgetown, which is one of the few of Haupt in uniform, shows that he had grown a full beard.⁷³ Two days after their arrival Haupt took his wife and son to the headquarters of the Army of the Potomac and introduced them to the staff officers.⁷⁴

Haupt did not have much time for family visits, for

⁷¹Haupt to Cartwright, May 14, 1863, Haupt Papers, Box 4; Haupt also recommended Cartwright to Stanton for a position on the next board of visitors to West Point. Haupt to Stanton, May 15, 1863, Haupt Letterbook, 1862-63, p. 310.

⁷²Haupt to his children, May 22, 1863, Haupt Papers, Box 4; Mrs. Susan Haupt Adamson to author, April 27, 1968.

⁷³Photograph in Adamson Collection.

⁷⁴Sparks (ed.), The Diary of Marsena Rudolph Patrick, p. 257.

after the battle of Chancellorsville, Lee decided to invade the North and on June 3 his vanguard moved out of Fredericksburg towards Culpeper. Hooker watched the Confederate activity for over a week and assumed that it was another raid by Stuart to divert attention from Lee's actual plans. Nevertheless, Hooker took measures to protect his right wing, particularly the Orange & Alexandria Railroad, fearing it would be cut, placing Confederate troops between his army and Washington. As a precaution Hooker extended his troops up the north side of the Rappahannock to protect his flank until he could fathom Lee's true purpose.⁷⁵

Haupt had rebuilt the bridge over Bull Run on the Orange & Alexandria in the event that the road should again be used to supply Hooker, and on June 12 received word that Hooker's movement would probably result in the abandonment of Aquia Creek and the Richmond, Fredericksburg, & Potomac Railroad. Haupt alerted Wright, the superintendent, and when the order arrived on the fourteenth to definitely abandon the railroad, all was in readiness. In three days all the stores, army and railroad property, and 10,000-12,000 sick and wounded men in the hospitals, constituting about 500 carloads, were moved on the railroad to Aquia Creek, loaded on the barges and brought safely to

⁷⁵Edwin B. Coddington, The Gettysburg Campaign: A Study in Command (New York: Charles Scribner's Sons, 1968), pp. 51-54.

Alexandria. No property was left behind or destroyed, even the window sashes being stripped from the buildings and carried along.⁷⁶ Haupt now supplied Hooker's army exclusively over the Orange & Alexandria.

After all the stores were brought to Alexandria, Haupt wrote Halleck that the exposed condition of the depot, machine shops, and warehouses made them extremely vulnerable to a Confederate raid and suggested using his idle construction corps to build a palisade around the depot ground.⁷⁷ Haupt was given permission to erect the works and his men spent the last weeks in June constructing a substantial fort complete with flanking bastions and loopholes.⁷⁸

If Hooker followed Lee northward toward the Potomac, he would soon cut himself free from the Orange & Alexandria. Haupt naturally wished to know exactly where Hooker intended to go so arrangements could be made over other railroads for supplying his army. On June 16 Haupt saw Hooker and

⁷⁶Report of W. W. Wright, September 9, 1863, Quartermaster General's Office Records, p. 28; Between November 25, 1862, and June 15, 1863, a total of 21,570 carloads of supplies were forwarded from Aquia Creek, an average of 106 cars per day with about ten tons in each. The highest number of cars moved in a single day over the line was 235. Ibid.

⁷⁷Haupt to Halleck, June 15, 1863, Haupt Letterbook, 1862-63, pp. 350-351.

⁷⁸Report of Adna Anderson, September 8, 1863, Quartermaster General's Office Records, p. 27; Haupt to Stanton, September 9, 1863, Haupt, Reminiscences, pp. 278-279.

". . . found him in a decidedly bad humor."⁷⁹ Hooker was seized with a malady common to Union army commanders, indecision mingled liberally with a fear of Lee. Hooker originally proposed to ignore the northward movement of Lee's army and strike at the remaining troops at Fredericksburg and advance towards Richmond. Lincoln vetoed this idea and instead urged Hooker to follow Lee northward on the eastern side of the Shenandoah Valley, keeping his forces between Lee and Washington and fighting him when the opportunity was presented. Some discretion was left to "Fighting Joe" as to where to engage Lee, but characteristically he refused to make the decision. When Haupt asked for information on the projected movements of the army, Hooker could only reply that he was not going anywhere until he received specific orders.⁸⁰

To Haupt the obvious solution seemed to be to move the army north across the Potomac and protect the Baltimore & Ohio Railroad and Harper's Ferry, using the former as a means of supply. Haupt went to Washington to confront Halleck with Hooker's indecision, of which Halleck was well aware, and urged Halleck to give Hooker some positive orders before Lee moved any farther up the Valley. But Halleck refused and while Hooker moved slowly northward roughly

⁷⁹Haupt, Reminiscences, p. 205.

⁸⁰Ibid.; Williams, Lincoln and His Generals, pp. 252-254.

parallel to Lee, no decisive action was taken.⁸¹ In fact, Hooker was not sure what his objectives were. Finally, on June 27, Hooker asked to be relieved. Lincoln and Stanton were only too happy to be rid of him, and the next day the command of the army was given to Haupt's old classmate, Major General George Gordon Meade.⁸²

By June 27 the Union army was moving northward away from the Orange & Alexandria Railroad, giving Haupt the responsibility of finding another means of rail communication with Washington. Unfortunately, as in the past, Haupt's operating orders gave him specific permission only over the railroads in Virginia, and he had to apply to Halleck for ". . . some evidence of authority to act if opportunity or necessity for action should present itself."⁸³ That same day he received "special order 286," giving him authority to ". . . do whatever he may deem expedient to facilitate the transportation of troops and supplies . . . in Virginia, Maryland, and Pennsylvania."⁸⁴ Haupt reported personally to Stanton in Washington on the twenty-eighth and said that he wanted to meet with Meade and organize supply lines

⁸¹Haupt, Reminiscences, pp. 205-207.

⁸²Williams, Lincoln and His Generals, p. 259.

⁸³Haupt to Halleck, June 27, 1863, Haupt Letterbook, 1862-63, p. 376.

⁸⁴Special Order No. 286, June 27, 1863, Adamson Collection; Haupt, Reminiscences, p. 208.

north of the Potomac. But Stanton for some unexplained reason asked Haupt to remain in Washington. So Haupt sat in the capital and watched Lee cut the Baltimore & Ohio Railroad and march his army into Pennsylvania. Finally on the twenty-ninth Haupt got Halleck's permission to leave.⁸⁵

Haupt left Washington for Harrisburg on June 30 via the Reading Railroad and Philadelphia rather than travel over the more direct but injured Northern Central Railroad. Arriving in Harrisburg late in the evening,⁸⁶ he went to the state house, where he found Governor Curtin and his staff confused and excited, and fearing the imminent capture of the city. Since Haupt could get no concrete information from the Governor, he sought and found Tom Scott at the Pennsylvania Railroad station in the city, where he was dispatching guards to protect the railroad bridges from Rebel cavalry raids. Scott informed Haupt that the Confederates, who had occupied the west bank of the Susquehanna River across from Harrisburg, had withdrawn early that morning in haste and were hurrying west through

⁸⁵Haupt, Reminiscences, p. 208.

⁸⁶There is some doubt as to when Haupt reached Harrisburg. In Haupt to Stanton, July 7, 1863, Haupt, Reminiscences, p. 235, he states he left Washington on June 29 and arrived the morning of the thirtieth. In his narrative Haupt, Reminiscences, p. 211, and later in life in Herman Haupt to Charles Edgar Haupt, May 24, 1904, in Association of American Railroads Library, Washington, D.C., Haupt states that he arrived on the evening of the thirtieth. The first dispatch by Haupt from Harrisburg was sent about 10:00 P.M. on the thirtieth.

Mechanicsburg. Scott thought that the show of force by the raw recruits hurriedly assembled in Harrisburg had frightened the Rebels off. Haupt accepted Scott's information but disagreed with his hypothesis. Haupt knew the roads around Harrisburg and the fighting ability of the Confederates and conjectured that they would not be frightened off by a mere show of force. He thought that Lee must have heard of Hooker's dismissal and was concentrating his forces to fall upon the Army of the Potomac piecemeal before Meade had time to take effective command.⁸⁷

Haupt sent a telegram to Halleck about 10:00 P.M. explaining the Rebel movements and stating that their concentration ". . . appears to be at or near Chambersburg." He continued, "the object apparently a sudden movement against Meade, of which he should be advised immediately."⁸⁹ Stanton sent Haupt's telegram to Meade at 11:30 P.M., but Haupt, taking no chances, sent an identical one to Meade on a locomotive from Baltimore to Westminster and thence by courier.⁸⁹

After sending his initial message, Haupt received

⁸⁷Haupt, Reminiscences, pp. 211-212; Herman Haupt to Charles Edgar Haupt, May 24, 1904, Association of American Railroads Library.

⁸⁸Haupt to Halleck, June 30, 1863, Official Records, XXVII, Pt. 1, p. 69.

⁸⁹Herman Haupt to Charles Edgar Haupt, May 24, 1904, Association of American Railroads Library.

an unsigned telegram from Port Royal on the Pennsylvania Railroad stating that Lee's entire army was marching toward Gettysburg, followed by his wagon trains.⁹⁰ At 12:45 A.M., Haupt telegraphed the information to Halleck and sent an identical message to Meade, which was received by him at 3:00 A.M.⁹¹ Haupt was back on the telegraph to Halleck at 6:00 A.M. giving a summary of the night's information and estimating the Confederate strength at 92,000 men and 236 pieces of artillery, exclusive of General A. P. Hill's.⁹² Considering the difficulty of obtaining reliable troop figures, Haupt's information was not bad, for Lee had about 75,000 troops at the battle and between 272 and 281 pieces of artillery.⁹³

Haupt always considered his interpretation of Lee's movements and his warnings of the concentration at Gettysburg to have been one of his greatest achievements of the Civil War. Forty years after the event Haupt wrote that "I providentially reached Harrisburg on the evening of June 30, 1863, . . . [and] saved the day at Gettysburg and saved the

⁹⁰The message was sent by Stephen W. Pomeroy, of Strasburg, Pennsylvania. McClure, Old Time Notes of Pennsylvania, pp. 100-102.

⁹¹Haupt to Halleck, July 1, 1863, Official Records, XVII, Pt. 3, p. 474.

⁹²Haupt to Halleck, July 1, 1863, Official Records, XVII, Pt. 3, p. 476.

⁹³Coddington, Gettysburg, pp. 244, 249.

country; for defeat would have been sure. I was the only one who interpreted correctly the design of Lee's movements, . . ." He added that Colonel Lafitte, who supervised the publication of the war records, remarked that Haupt's services ". . . had been of inestimable value to the country but had never been recognized or appreciated. . . ." ⁹⁴ The latter comment is certainly true, but Haupt's former remark deserves some qualification. Meade possessed enough information as early as the morning of June 30 to indicate that Lee would probably advance to Gettysburg and took measures to protect his left flank around that town by moving three corps under the command of Major General John F. Reynolds toward Gettysburg by different routes. Before the messages from Haupt, Stanton, and others reached Meade on the night of June 30, he had already ordered a general advance by the entire army in the direction of Gettysburg; the receipt of messages during the night indicating Lee was headed to that town only served to show the correctness of Meade's troop disposition. ⁹⁵ Thus, Haupt provided valuable and, as it transpired, amazingly accurate information to Meade and Halleck, but in the absence of Haupt's messages the two armies would have collided

⁹⁴Herman Haupt to Charles Edgar Haupt, May 24, 1904, Association of American Railroads Library.

⁹⁵Coddington, Gettysburg, p. 231; Williams, Lincoln and His Generals, pp. 262-263.

in Gettysburg anyway.

On the morning of July 1, Haupt returned to Baltimore to organize the transportation of supplies over the Western Maryland Railroad, twenty-nine miles long from Baltimore to Westminster, from where supplies had to be hauled by wagon twenty miles to reach Meade. But it was the best Haupt could do until the Northern Central and connecting roads to Gettysburg could be repaired. Haupt went to Westminster on the first. There he found everything in great confusion, as Meade's quartermaster officers had collected their wagons in the town and were clamoring for supplies. Finding it impossible to think rationally in the confusion, Haupt found a covered supply wagon and climbed in and hid. A few minutes later he emerged ready for action.⁹⁶

Since the Western Maryland was a single track line with no sidings, no turntables, no telegraph, and no water or wood for the locomotives, Haupt sent to Alexandria for Adna Anderson to bring a train load of split wood, buckets, and lanterns along with his construction corps. Haupt then arranged to run the trains in convoys on an eight-hour schedule, five trains at a time from Baltimore to Westminster, where they would immediately unload and back down the track clearing the way for five more trains which would

⁹⁶Haupt, Reminiscences, p. 213.

be prepared and ready to roll. Anderson's buckets were used to dip water for the locomotives from nearby streams and his wood was enough to keep the railroad running. Using this system, Haupt would be able to send 150 cars per day over the road or about 1,500 tons of supplies, and carry away 2,000 to 4,000 wounded if there were no accidents.⁹⁷

As soon as Haupt heard that the lines to Gettysburg were safely in Union hands, he returned to Baltimore and turned his attention to reopening the Northern Central Railroad from Baltimore to Harrisburg. Between Hanover and Harrisburg on the Northern Central there were nineteen bridges destroyed. Haupt split his construction corps, sending half of them to Harrisburg via Philadelphia to work south and retaining the other half to work north toward Harrisburg. Haupt did not take over the Northern Central as a military railroad as he had the Western Maryland, but priority was given military shipments by the civilian management.⁹⁸

Early on July 4 Haupt went to Hanover and started working west on a branch line to Littlestown, only nine

⁹⁷Ibid.; Haupt to Stanton, July 2, 1863, Ibid., p. 216; Turner, Victory Rode the Rails, pp. 278-280; Weber, The Northern Railroads in the Civil War, p. 164.

⁹⁸Haupt to Halleck, July 3, 1863, Official Records, XXVII, Pt. 3, p. 511; Haupt to Colonel Ambrose Thomson, Assistant Quartermaster, July 2, 1863, Haupt, Reminiscences, p. 219.

miles from Meade's headquarters, and by late afternoon trains were running to the town. Haupt then turned his attention to the Gettysburg Railroad between Hanover and Gettysburg, and by nightfall his construction crews had reached the last destroyed bridge on the road. By noon of the fifth Haupt's crews had replaced the bridge and destroyed track, and Meade was in direct rail communication with Washington.⁹⁹

On the morning of July 5, Haupt had a friend drive him to Meade's headquarters in a buggy. After more than an hour of desultory conversation, Haupt asked Meade about his future plans, so that supplies could be arranged, and suggested that the obvious move would be to block Lee's crossing of the rain-swollen Potomac and destroy his army. Meade replied that his army needed rest and refitting and that it would be impossible to start immediately. Haupt pressed the point repeatedly that if Meade did not act Lee would escape, but Meade continued to insist that he was in no condition to take the offensive, and Haupt left discouraged.¹⁰⁰

⁹⁹Haupt to Halleck, July 4, 1863, Haupt, Reminiscences, p. 221; Haupt to Halleck, July 4, 1863, ibid.; Haupt, Reminiscences, p. 223; In the seventeen days between July 7 and July 22, a total of 11,425 wounded men were brought out by rail for York, Baltimore and New York on fifty-two trains. Report of Medical Inspector Edward P. Vollum, July 25, 1863, Official Records, XXVII, Pt. 1, pp. 26-27.

¹⁰⁰Haupt, Reminiscences, pp. 223-224; Herman Haupt to Charles Edgar Haupt, May 24, 1904, Association of American Railroads Library; Haupt to Stanton, July 7, 1863, Haupt, Reminiscences, p. 236.

After leaving Meade, Haupt fired off a telegram to Halleck intimating that Meade was letting his opportunity pass and suggesting a force of troops be sent south of Washington into the Shenandoah Valley at Front Royal on the Manassas Gap Railroad to block Lee's retreat.¹⁰¹ After a brief tour of the battlefield Haupt took a train to Washington and met with Halleck on the morning of July 6. He urged that pressure be brought on Meade to follow up his advantage. Then Haupt left Halleck and went to see first Stanton and next Lincoln, hoping to stir Meade to action. Haupt discovered that the authorities in Washington had also been prodding Meade for several days to strike at Lee, but with no results.¹⁰²

On July 8 Haupt traveled to Harrisburg to inspect the Cumberland Valley Railroad from that town to Hagerstown in order to open a supply route for Meade, who was close to Sharpsburg but still drawing his supplies from Gettysburg.¹⁰³ Finding the railroad destroyed, Haupt asked Tom Scott to rebuild it with Pennsylvania Railroad employees and returned to Gettysburg on the ninth, where he unclogged a traffic jam caused by the failure of troops to unload the

¹⁰¹Haupt to Halleck, July 5, 1863, Haupt, Reminiscences, p. 227.

¹⁰²Haupt, Reminiscences, pp. 227-229; Williams, Lincoln and His Generals, pp. 266-267.

¹⁰³Haupt to Stanton, July 8, 1863, Haupt, Reminiscences, p. 238.

cars. Haupt determined to reach Chambersburg by rebuilding the railroad from Gettysburg to that town and he marched his construction corps to Chambersburg to begin reconstruction from that direction of the ten miles of destroyed line.¹⁰⁴ The Confederate rear guard had occupied Hagerstown on the night of July 7, and the line to Chambersburg was urgently needed to supply Union forces now concentrated around Hagerstown. By July 12 Meade faced the entrenched Confederates along a five-mile front perpendicular to the Potomac.¹⁰⁵

Haupt faced an urgent wood and iron shortage in repairing both the railroads to Chambersburg and Hagerstown and despite his furious efforts to reopen the railroads to support Meade in another battle, Lee slipped across the Potomac on July 14.¹⁰⁶ Later that afternoon, when Haupt was ordered to cease his efforts and return his construction corps to Alexandria, he replied that Lee's ". . . movement is precisely as I expected and predicted. I did not see how we could prevent the enemy from crossing."¹⁰⁷

Some of Haupt's criticism of Meade's actions after

¹⁰⁴Haupt to Meigs, July 9, 1863, ibid., p. 239.

¹⁰⁵Coddington, Gettysburg, pp. 565-566.

¹⁰⁶Haupt to Meigs, July 13, 1863, Haupt, Reminiscences, p. 240; Haupt to D. J. Morrell, July 13, 1863, ibid.; Haupt to Adna Anderson, July 13, 1863, ibid.; Meigs to Haupt, July 14, 1863, ibid., p. 243.

¹⁰⁷Haupt to Meigs, July 14, 1863, ibid.

the battle of Gettysburg was unfair although Haupt's assessment of the larger strategic situation was uncannily accurate. Meade's protestations that he was not well supplied were partially true. Although Haupt sent more than a sufficient quantity of supplies over the Western Maryland Railroad to Westminster and later directly to Gettysburg, he was unaware that they were not effectively distributed after they left his railheads. The constant rain during and after the fourth made roads practically impassable for wagons and the attendant confusion after a major battle slowed normal supply. Meade, on the other hand, believed, and with some justification, that Lee was still capable of delivering an offensive punch and wanted to keep his forces between Lee and Washington.¹⁰⁸ But the fact was that Lee got the jump on Meade after Gettysburg and effectively prevented him from taking the offensive until the two armies confronted each other on July 12 just north of the Potomac, by which time Lee was well entrenched, and Meade wisely refrained from another Fredericksburg.

Haupt's views on Meade's slowness were an accurate barometer of not only public opinion but also of the thinking of Lincoln and Halleck. However, Haupt's assessment of Lee's probable movements after the battle was perfectly accurate. Haupt fully realized that while Lee was moving

¹⁰⁸Coddington, Gettysburg, p. 815n.

toward his source of supply in Virginia and becoming logistically stronger, Meade was moving away from his depots around Gettysburg and growing weaker. Haupt foresaw that if Meade wished to destroy Lee he would have to do it north of the Potomac; hence he bent all his efforts toward convincing the Union high command to act with dispatch and contain Lee in the north.

With Lee's escape a reality, Haupt returned with his corps to Alexandria and undertook the reconstruction of the Orange & Alexandria Railroad to supply Meade's army and perhaps allow him to attack Lee somewhere in Virginia.¹⁰⁹ But the two armies never came to grips again in 1863, and Haupt's duties from July through September consisted mainly of guarding the rail lines, maintaining a flow of supplies to Meade, and continuing his experiments with various innovations.¹¹⁰

On August 4 Haupt made a report to Halleck on methods of restoring destroyed railroads. Haupt's construction corps had to resort to using damaged rails when they attempted to rebuild the Gettysburg railroad to Chambersburg after the battle and had to devise some simple tools for straightening bent rails. Haupt continued the

¹⁰⁹Report of Adna Anderson, Official Records, Ser. 3, IV, p. 962.

¹¹⁰Haupt, Reminiscences, pp. 246-253; Haupt to Halleck, August 7, 1863, ibid., pp. 256, 259.

experiments during late July and early August, taking photographs of the methods and machines, and later sent the report to Halleck.¹¹¹ Haupt also continued his experiments with blanket boats, tying them together to make large rafts which were capable of ferrying artillery across rivers.¹¹²

The inactivity on the military front allowed Haupt to catch up on personal matters. After Anna Cecilia left for Boston at the end of the first week in August, Haupt wrote to Stanton and Lincoln asking for an appointment to West Point for his son Lewis, a student at Harvard.¹¹³ Late in August Lincoln appointed him a cadet from the seventh district of Georgia, leading Haupt to tease Lewis for being a secesh plebe. Haupt made plans to take Lewis to the Point on August 30 and to extend his trip to Troy and Philadelphia.¹¹⁴

As Haupt was preparing to leave in late August, Governor Andrew made a trip to Washington to confer with Stanton, and Haupt heard through the grapevine that he was a daily topic of conversation between the two men. Haupt

¹¹¹Haupt to Halleck, August 4, 1863, ibid., pp. 255-256.

¹¹²Herman Haupt to Anna Cecilia Haupt, August 9, 1863, Haupt Papers, Box 4.

¹¹³Ibid.; Herman Haupt to Anna Cecilia Haupt, August 10, 1863, Haupt Papers, Box 4.

¹¹⁴Haupt to Cartwright, August 30, 1863, Haupt Papers, Box 4.

learned that Andrew wanted Stanton to force him to unconditionally accept his commission to keep him from returning to Massachusetts and presenting his claims for compensation.¹¹⁵ Nevertheless, Haupt left Washington on August 31, and the next day Stanton sent him a letter stating that any commission not accepted by September 5 would be considered vacant.¹¹⁶ Haupt returned to Washington on the fifth, the deadline for acceptance, and wrote a long letter to Stanton arguing that since the cabinet and the assistant secretaries of War and the Navy were civilians there was no reason why the director of military railroads could not be civilian. Haupt did not want to relinquish his job and suggested to Stanton that perhaps he might be sent west to organize the railroads there or that Stanton might ". . . appoint me chief of a bureau of military railroads, with the compensation of Brigadier General." Haupt concluded by asking for "immediate action . . . as I am about concluding certain arrangements for my family which will be influenced by your decision."¹¹⁷ Haupt personally carried the letter to

¹¹⁵Haupt, Reminiscences, p. 261.

¹¹⁶James A. Hardie, Assistant Adjutant General, to Haupt, September 1, 1863, ibid.; George Fall, Haupt's secretary, to Stanton, September 2, 1863, in Letterbook of Herman Haupt and Lewis M. Haupt, 1863-1884, Adamson Collection, p. 22, hereinafter cited as Haupt Letterbook, 1863-1884.

¹¹⁷Haupt to Stanton, September 5, 1863, Haupt, Reminiscences, pp. 262-263; Haupt to Stanton, September 5, 1863, Haupt Letterbook, 1863-1884, pp. 34-39; There are a few minor omissions in Haupt's published version of the letter, the two most important being quoted above.

Stanton, who was absent, but Watson approved its contents and tone and promised to talk to Stanton in Haupt's behalf.¹¹⁸

Haupt had several meetings with Stanton between September ninth and eleventh with no conclusive results. Stanton finally agreed to pay Haupt's expenses, which had never been paid and which Stanton had refused to pay in July.¹¹⁹ After the meetings Haupt wrote his wife that "I think it about an even chance whether I stay or leave."¹²⁰ In an attempt to improve the odds, Haupt wrote a letter to Lincoln explaining his problems in Massachusetts and offered to continue in his present capacity without military rank, stating that under no conditions would he accept a formal commission. Haupt concluded that "what others have failed to do, in the management of the railroads, I have been willing to try to do. What others can do as well as myself, it would be a waste of time for me to undertake to do. Accounts, routine, and office details are not to my taste."¹²¹ Haupt also appealed to Halleck by letter to

¹¹⁸Herman Haupt to Anna Cecilia Haupt, September 9, 1863, Haupt Papers, Box 4.

¹¹⁹See: Haupt to Halleck, July 17, 1863, Haupt Letterbook, 1862-63, pp. 423-428, and also in Unpublished Correspondence, pp. 45-47; Haupt to Stanton, July 18, 1863, Unpublished Correspondence, pp. 47-48.

¹²⁰Herman Haupt to Anna Cecilia Haupt, Unpublished Correspondence, pp. 55-56.

¹²¹Haupt to Lincoln, September 11, 1863, Haupt Letterbook, 1863-1884, pp. 73-74.

intercede in his behalf with Stanton, but neither Lincoln nor Halleck took any action.¹²²

In another letter to Stanton, written September 11, Haupt sought a compromise and tried to define some conditions under which Stanton would allow him to continue short of formal acceptance. Haupt suggested a reorganization of the military railroads with a central bureau in Washington over all railroads in all theaters. All commanding generals should be forbidden to issue orders to the railroads except through the chief of the bureau, and that the chief of the bureau ". . . should be free to move wherever his personal presence was most necessary, . . . or to attend to such other public or private business as might require his attention."¹²³ Haupt thought that this last qualification removed the need for a commission, and he wrote out and included with the letter a trial order appointing himself chief of the bureau.¹²⁴ However, Stanton did not answer.

On September 12 Haupt received \$6,000 for his

¹²²Haupt to Halleck, September 11, 1863, Haupt Letterbook, 1863-1884, pp. 69-70.

¹²³On September 11, Haupt received a note from Stanton asking him to return his commission, and adding that if he did not ". . . it will become necessary to muster you out of the service." Hardie to Haupt, September 11, 1863, Adamson Collection; Haupt to Stanton, September 11, 1863, Haupt Letterbook, 1863-1884, pp. 64-65.

¹²⁴Trial Order appended to Haupt to Stanton, September 11, 1863, Haupt Letterbook, 1863-1884, p. 67.

fifteen months' expenses. He used the money to pay off the mortgage on Chestnut Hill and other personal debts incurred while serving in the Army.¹²⁵ On either the thirteenth or fourteenth Haupt had his last personal interview with Stanton and once again declined to accept the commission, and offered several compromises short of formal acceptance. Stanton, obviously irritated by Haupt's refusal, terminated the interview abruptly by announcing that "I will relieve you at once, sir!"¹²⁶ True to his word, Stanton ordered Haupt to turn over his ". . . office, books and papers and all other property under your control belonging to the United States, to Colonel D. C. McCallum. . .," an order which caused Haupt to later remark that he was the only man ". . . ever guilty of the crime of refusing to be made a general."¹²⁷

Haupt has fared better in the military history of the Civil War than most of his contemporary commanding generals, despite the fact that he was associated with their losing campaigns. Few of the general officers of the

¹²⁵Haupt wrote his wife on September 12 that Halleck and Lincoln ". . . may possibly interfere to prevent my going away and insist on Stanton receding from his position. If he does not. . . my leaving will not be very satisfactory to Devereux and the rest of my friends." Herman Haupt to Anna Cecilia Haupt, September 12, 1863, Unpublished Correspondence, p. 56.

¹²⁶Haupt, Reminiscences, p. 264.

¹²⁷Stanton to Haupt, September 14, 1863, ibid.; Statement of Haupt to Special Committee, 1864, p. 41.

eastern armies between 1861 and 1863 emerged with their reputations intact, much less enhanced, after the constant series of reversals, as Haupt did. Haupt also had to overcome other handicaps to earn his place in the histories, including the constant friction between himself and Secretaries Chase, Welles, and, sometimes, Stanton. True, Haupt had friends in all these departments, sometimes in high official capacity, but they were not always able to protect him from gestures of official displeasure. After Haupt's service with the Army was terminated, a rumor was circulated around Washington and in the press that Haupt was involved with Gwynn and a naval contractor in a scheme to defraud the government. Welles noted in his diary with obvious delight that some correspondence ". . . disclosing a mass of fraud and intrigue on the part of a set of assuming men that is as amusing as reckless. . . . [including] General Haupt, . . . brings to light the secret intrigues of those scoundrels."¹²⁸ It is true that Haupt often became involved in matters that were far removed from his jurisdiction, but he did so in the honest conviction that by using his authority and friendships in the capital he could rectify what he considered wasteful and illegal policies. Unfortunately all that these efforts earned him was a great

¹²⁸Howard K. Beale (ed.), Diary of Gideon Welles, Secretary of the Navy Under Lincoln and Johnson (New York: W. W. Norton & Co., 1960), I, 511.

deal of conflict and rancor.

Haupt's contribution to the military railroads was not given any publicity by McCallum when he issued the final report of the department after the war.¹²⁹ In a forty-five page report giving a detailed history of the activities of the military railroads between January 10, 1862, and August 8, 1865, McCallum managed to completely omit Haupt's name even from a listing of the "principal officers of military railroads of Virginia during the war."¹³⁰

In Haupt's personal copy of McCallum's report, he marked out a paragraph which stated: "In the beginning of the war military railroads were an experiment; and although some light as to their management had been gleaned by the operations of 1862 and 1863, yet so little progress had been made that the attempt to supply the army of General Sherman in the field, . . . was regarded by those who had the largest experience, . . . as the greatest experiment of all."¹³¹ Undoubtedly the finest hour of the military railroads was the support given to Sherman on his march through Georgia, but the lines were run by Haupt's former

¹²⁹U.S., Congress, House, Report of Brevet Brig. Gen. D. C. McCallum, 39th Cong., 1st Sess., 1866, Ex. Doc. 1.

¹³⁰Military Railroads, 1861-67, p. 11.

¹³¹Ibid., p. 43.

subordinates and strictly according to principles established by Haupt in the Virginia campaigns of the previous two years. Sherman's march was the culmination of prior experience, not the beginning of a new era.¹³²

Finally, Haupt had to contend with the ever present problems of the Hoosac and a lack of personal funds. Since he drew no salary during his fifteen months, Haupt had to depend on friends for loans with which to purchase necessities and pay the salary of his secretary.¹³³ The business of constantly soliciting funds was bothersome to Haupt and although he sought to have his expenses paid on a regular basis, Stanton never approved. But the Hoosac affected Haupt most severely, preventing him from formally accepting his commission, which if done would have resolved some of his problems in Washington. Haupt was in an awkward position with an unsigned commission, and Stanton was quite properly correct in refusing to allow Haupt to go indefinitely being a general without being under any binding military orders. But Stanton was also smart enough to know that he badly needed Haupt and that any arrangement under which he could procure his services would be advantageous to the army. After Haupt had organized and trained a

¹³²See: E. C. Smeed to Haupt, May 1899, Haupt, Reminiscences, pp. 290-296.

¹³³Haupt to Charles W. Bond, June 10, 1863, Haupt Letterbook, 1862-63, p. 348.

competent corps of railroad men by the middle of 1863, Stanton felt he could then demand compliance by Haupt to military authority. Andrew may have been the immediate catalyst for bringing the problem to a decision, but it eventually would have arisen anyway.

Haupt enjoyed an excellent press during the Civil War because he was available to correspondents and frequently had items that made good copy. Primarily Haupt used the press in an attempt to reform abuses, but he often gave items on diverse subjects, such as the growth of photography during the war, eyewitness accounts of battles, intrigues in Washington, and new ideas for a variety of military devices. After the war Haupt continued to enjoy a favorable press. Years later newspapers recounted the stories of Haupt's feats on the Potomac Creek bridge and at the Battle of Gettysburg.¹³⁴ But most of the post Civil War press was reserved for ex-commanders of both armies verbally refighting the old campaigns in an effort to justify or exonerate their actions.

Historians were slower to recognize the contributions made by either the military railroads or by Haupt. Most of the initial historical literature on the war ignored both, owing to the confused command of the railroads and to

¹³⁴See: St. Paul Pioneer, August 26, 1905; The Baltimore Sun, December, 1905, Haupt Scrapbook, p. 144; and unidentified newspaper, September 12, 1912, Adamson Collection.

the lack of memoirs by the railroad personnel.¹³⁵ It was not until World War I that the precedents of wartime usage of military railroads were examined, and Haupt was cited by the railroad trade press in an attempt to prevent government seizure of domestic railroads. He was depicted as the champion of the concept that ". . . the railways be operated by those who knew them best, that he did not superimpose his own authority on railway men."¹³⁶

During the 1920's interest lagged in Civil War exploits, particularly in the military railroads.¹³⁷ But

¹³⁵Notable exceptions were John G. Nicolay and John Hay, Abraham Lincoln: A History (New York: The Century Company, 1904), VI, 15n, and George A. Thayer, "A Railroad Feat of War," Sketches of War History of the Ohio Commandery of the Loyal Legion of Cincinnati (n.p.: no publisher, 1896), IV, 223; sources that would be expected to mention Haupt, as George Meade, The Life and Letters of George Gordon Meade, Major-General United States Army (New York: Charles Scribner's Sons, 1913), and William Roscoe Thayer, The Life and Letters of John Hay (Boston: Houghton Mifflin Company, 1908), contain nothing; E. A. Pratt, The Rise of Rail-Power in War and Conquest (Philadelphia: J. B. Lippincott, 1916), was one of the first to make use of Haupt's Reminiscences.

¹³⁶Samuel O. Dunn, "Use of Railroads in War, An American Development," Railway Age Gazette, LXII, June 22, 1917, p. 1387; Carl Russell Fish, "The Northern Railroads," American Historical Review, XXII (July, 1917), 793, states that Haupt built the Hoosac after the war; See also, Herman King Murphy, "The Northern Railroads and the Civil War," Mississippi Valley Historical Review, V (December, 1918), 324-338.

¹³⁷See: S. H. Church, "Railroading in the Civil War," Pennsylvania News, Central Region, I, March 15, 1922, p. 2; Robert E. Riegal, "Federal Operation of the Southern Railroads During the Civil War," Mississippi Valley Historical Review, IX (September, 1922), 126-138; "Thomas A. Scott in the Days of '61," Mutual Magazine, XIII (February,

late in the decade, historian Eva Swanter undertook to untangle the chain of command in the railroad bureau and reduce it to a neat schematic diagram, which she succeeded in doing only after a struggle. In simple fact, no well defined chain of command existed, even when Haupt left.¹³⁸

It was not until the end of the war that the bureau became well organized and McCallum wielded the power he should have possessed much earlier.

Not until after World War II did historians begin to take a hard look at the role of railroads during the Civil War, and in the rash of books and articles which appeared historians expended all available adjectives attempting to describe Haupt's contributions. He was characterized as "an odd person of great energy," "redoubtable," "industrious," "dynamic," "an engineering genius," "an expert," able "to almost accomplish the impossible," "pugnaciously efficient," and "rough and brusque."¹³⁹ The

1928), 5-7; A. Howard Meneely, The War Department, 1861: A Study in Mobilization and Administration (New York: Columbia University Press, 1928).

¹³⁸Swanter, "Military Railroads During the Civil War," p. 435.

¹³⁹In order of the quotes: Stewart H. Holbrook, The Story of American Railroads (New York: Crown Publishers, 1947), p. 129; Colonel George C. Reinhardt, "Chief of Construction & Transportation," National Defense Transportation Journal, VIII (September-October, 1952), 45; Weber, The Northern Railroads in the Civil War, p. 140; Fletcher Pratt, Stanton: Lincoln's Secretary of War (New York: W. W. Norton & Co., 1953), p. 229; Turner, Victory Rode the Rails, p. 148; Russell F. Weigley, Quartermaster General of the Union Army: A Biography of M. C. Meigs (New York: Columbia

theme gradually unfolded from the historical works that during the unpromising first two and one-half years of combat, Haupt proved the feasibility and the absolute necessity of rail transportation for highly mobile armies in the field. He emerged as one of the few commanding officers of that period with the resolution, determination, and ability to succeed. Even his detractors, who seem alienated by his personality, grudgingly admit that he had the ability to cut through personal jealousies to get things done.¹⁴⁰ He brought organization and leadership where there had been chaos and he stepped on official toes, but when the Union

University Press, 1959), p. 6; Allan Nevins, The War for the Union, Vol. II: War Becomes Revolution (New York: Charles Scribner's Sons, 1960), 460; Angus James Johnston, Virginia Railroads in The Civil War (Chapel Hill: University of North Carolina Press, 1961), p. 35; Stephen E. Ambrose, Halleck: Lincoln's Chief of Staff (Baton Rouge: Louisiana State University Press, 1962), p. 72. See also: Walter H. Hebert, Fighting Joe Hooker (New York: The Bobbs-Merrill Company, 1944), p. 119; Francis A. Lord, "The United States Military Railroad Service," Civil War Times Illustrated, I (October, 1962), 6-11, 46-50; For information on the locomotives used on the military railroads and particularly the locomotive "General Haupt," see Charles E. Fisher, "The United States Military Railroads," The Railway & Locomotive Historical Society Bulletin, No. 108 (April, 1963), p. 72.

¹⁴⁰ Haupt has also been characterized as a hard man to get along with, pigheaded and humorless, but if so, these were the very character traits which brought success to his efforts on the military railroads. Weber, The Northern Railroads in the Civil War, pp. 140-141; A clearer characterization of Haupt is given in Stewart Holbrook, The Story of American Railroads, p. 129, who states that "Haupt was a man who made wonderful friends or terrible enemies of all who knew him. Seemingly people could not be neutral about him."

armies went into battle they were well supplied over his railroads, and even his succession of commanding generals, practiced as they were in making excuses for failure, never blamed a loss on lack of supply by Haupt. In fact, they had nothing but uniform praise for his ability.

Haupt's success with the wartime railroads rested essentially on his ability to create a workable organization, train it, and then give it only general direction, allowing his subordinates leeway in method. As the war progressed, Haupt took a less active part in the actual construction work, for beginning in 1863 he had a small well organized construction corps permanently detailed to him. Instead, he confined his efforts to anticipating the needs of his commanders, designing improvements to reduce the time required for opening destroyed railroads and operating the roads. In reality, he was slowly phasing himself out of the bureau, for as he delegated more authority to his subordinates they could, following his precedents, do what he had done earlier and do it more efficiently. Thus, when Haupt left the service, efficiency did not lag, but rather continued to improve as manpower on the railroads increased but did so within the framework of experience.

When Haupt left the military service in September of 1863, he was still only forty-six years of age and at the

peak of his career. But the sting of defeat in the Hoosac contract continued to gnaw at him, and he resolved to continue the fight in Massachusetts to clear his reputation.

CHAPTER XIII

THE INTERREGNUM

Haupt found after leaving the army that his problems had only increased. His absence from Massachusetts, the commissioners' report, and the state assumption of the work limited severely his chances of recovering his investment in the Hoosac. Matters worsened when the Commonwealth of Massachusetts, heeding Brooks' advice, brought suit for recovery of the over-issuance of state bonds and impounded all Haupt's assets in the state until the case was settled.¹ Haupt's affairs in Pennsylvania were little better. Galbraith was threatening suit for misappropriation of funds, Carpenter sued for his back salary, and the subcontracting firm of Ballou and Simmons brought suit charging Haupt paid them in worthless securities. Haupt's coterie of Pennsylvania financiers had dissolved, he had broken with Thompson and Scott, Spangler was still in financial straits, Dysart was threatening court action, and Haupt was in debt to all of them.² Haupt's personal property was largely dissipated,

¹Statement of Haupt to Special Committee, 1864, p. 29.

²Statement of Galbraith to the Justices of the Supreme Court of the County of Middlesex, December 1863,

some of it lost by sheriff's sale in 1857, most lost to unpaid notes, and he retained only Chestnut Hill and some Youghiogheny coal properties in western Pennsylvania.

Haupt was determined to reorder his affairs and gave the highest priority to extinguishing his personal debt. To achieve this he decided to carry on his fight for restitution of his losses by Massachusetts. Since Haupt was prevented by the shield of state sovereignty from suing the state and recovering his losses in the courts, he was forced to appeal to the legislature for redress. This necessitated spending five or six months each year in Boston, and also prevented him from holding another job. The sacrifice was great, for Haupt desperately needed an income. But the possibility of recovering more than a quarter of a million dollars and his professional reputation more than offset the disadvantages.

When not in Boston, Haupt directed his efforts towards raising money by perfecting and marketing certain technical processes, and to this end he maintained an interest in fibrila, dusted off and presented his plans again for the improvement of the Ohio River, but finally settled on completing his rock drill and negotiating its adoption

Haupt Papers, Box 4; Haupt to (), September 8, 1863, Haupt Letterbook, 1863-1884, p. 51; Plaintiff's Declaration in Commonwealth vs. Herman Haupt, October 1, 1863, Haupt Papers, Box 4; Haupt to William Dysart, March 30, 1863, Haupt Papers, Box 4; Haupt to Cartwright, January 24, 1864, Haupt Papers, Box 4.

by the state commissioners for the Hoosac tunnel. He was handicapped by a lack of funds for experimentation and the animosity of the state commissioners, but he felt the demonstration of a working model would overcome these problems.

But before Haupt could resume work on the drill, he had to take measures to protect himself against the suit of the state. His first hired counsel, something he had not done before, to defend his interests before the state supreme court.³ He engaged Judge Josiah G. Abbott, a Boston attorney and former member of the Massachusetts house and senate, giving him complete freedom to manage the defense. But Abbott was not hired to argue the Galbraith or Ballou suits and advised Haupt not to contest either of them.⁴

Haupt was again in Boston on January 1, 1864, with another memorial asking the legislature for the appointment of an impartial commission to examine the Hoosac accounts and recommend appropriate action.⁵ The legislature, under pressure from Andrew, postponed printing the memorial for three weeks and when finally printed, it was buried in the

³Haupt to Judge Josiah G. Abbott, July 24, 1863, Haupt Letterbook, 1862-63, p. 449.

⁴Agreed Statement of Facts in Commonwealth vs. Herman Haupt, April 1864, Haupt Papers, Box 4.

⁵Copy of Haupt's memorial cited in Chapman, "Haupt," XXIV, p. 2.

tunnel committee.⁶ Haupt published copies of his position at his own expense and distributed them among the legislature and broadcast an additional 10,000 across the state, but the committee refused to budge. Finally, on May 3, the legislature proposed to refer the matter to the next session, with the tunnel committee empowered to sit through the recess and examine witnesses. Haupt wrote his wife that he agreed to the proposal but did not think it was ". . . just to me to keep my property attached and my hands tied for another year by the suits and attachments. . . ." ⁷ On May 12 Haupt gave up and left Boston, admitting to Cartwright that "we are defeated in everything. . . ." ⁸

While Haupt was awaiting action by the committee in Boston, he was not idle. He made several trips to Philadelphia to meet with his creditors to arrange extensions on his notes and also to ascertain exactly what he owed and to whom. Haupt wrote to Spangler, James Wilson, Dysart, and

⁶Haupt to Cartwright, February 21, 1864, cited in *ibid.*, p. 3; Herman Haupt to Anna Cecilia Haupt, May 3, 1864, Haupt Papers, Box 4.

⁷Herman Haupt to Anna Cecilia Haupt, May 3, 1864, Haupt Papers, Box 4.

⁸Haupt to Cartwright, May 12, 1864, cited in Chapman, "Haupt," XXIV, p. 32; Haupt's cause was not helped by the fact that the Green River bridge, which had collapsed in April 1861, finally fell entirely into the river during the winter of 1864 because the foundation crumbled from neglect. Haupt maintained it was sabotaged. Haupt to A. Hoyt, April 4, 1864, Haupt Papers, Box 4; Hoyt to Haupt, April 5, 1864, Haupt Papers, Box 4.

Thomson trying to reconstruct the web of investments between the men and determine some method of payment.⁹ He also wrote Griswold in Troy, suggesting that in the absence of any legislative grant to pay him, he would give a personal note for the \$30,000 debt in return for the worthless Troy & Greenfield bonds.¹⁰ Without any financial resources, Haupt could do little except organize and postpone his future payments and hope for a windfall from the state.

Haupt hoped to realize a profit from his drill. Commissioner Brooks had tried unsuccessfully to borrow a model of the Mt. Cenis drill for use in the Hoosac and ignoring Haupt's experiments, he decided to invent and use his own.¹¹ To protect himself, Haupt filed a caveat for a patent on December 26, 1863, before he had perfected a model of the drill.¹² Unfortunately, Gwynn had independently filed for a patent on the drill a year earlier, stating that he was the original inventor of both the drill

⁹Haupt to Spangler, March 7, 1864, Haupt Papers, Box 4; Haupt to Wilson, March 30, 1864, Haupt Papers, Box 4; Haupt to Dysart, March 30, 1864, Haupt Papers, Box 4; Haupt to Thomson, May 3, 1864, Haupt Papers, Box 4; Haupt learned through his brother Lewis that Tom Scott was anxious to re-establish their friendship. Herman Haupt to Lewis Haupt, February 1, 1864, Haupt Papers, Box 4.

¹⁰Haupt to Griswold, May 16, 1864, Haupt Papers, Box 4; Griswold to Haupt, July 9, 1862, Haupt Papers, Box 4.

¹¹Chapman, "Haupt," XV, p. 9.

¹²Ibid., p. 10.

and the concept of the hollow cylinder and piston.¹³ Haupt's caveat a year later argued that Gwynn had indeed invented the hollow cylinder but having done so in Haupt's employ the attendant improvements on the drill were also Haupt's.¹⁴ Haupt did not care who had the patent on the piston-cylinder concept as long as Brooks did not possess it, for he was confident that Gwynn, who had ceased work on the drill, would be willing to share in any profits.

Since Haupt was too poor to contract for machine work on the drill, he apprenticed his eldest son, Jacob, to a Philadelphia machine shop in 1863 and when he came of age a year later, Haupt helped him lease a machine shop and in February 1864 gave him the contract for constructing a new drill.¹⁵ Haupt also let a contract for the construction of electrical apparatus for illumination and blasting and set to work himself to construct a vacuum box for ventilation.¹⁶

Encouraged by the progress on the drill, Haupt appealed to Andrew to have the state commissioners at least examine his device for possible use in the tunnel, but when Andrew took no action, Haupt decided to push his patent

¹³Gwynn's petition for drill patent, December 30, 1862, Haupt Papers, Box 3.

¹⁴Chapman, "Haupt," XV, p. 12.

¹⁵Haupt, "Tunneling by Machinery," p. 6.

¹⁶Haupt to G. W. Beardsley, contractor, April 3, 1864, Haupt Papers, Box 4.

application to block Brooks.¹⁷ On April 8, 1864, Haupt sent the drawings to his patent attorney in Washington, Charles Toney, telling him to try to block Gwynn's application, but if that was not possible, then to nail down all other patent rights for the other innovations.¹⁸ Toney went to work, and Haupt received a patent on his rotary valve assembly on August 23, 1864, followed by one on his entire drill on March 7, 1865, on his drill stand on May 2, 1865, and on a variation of his drill on May 23, 1865. Despite the rapidity of these patents, Haupt still had to deal with Gwynn, who had received a patent for his drill on October 18, 1864.¹⁹

Despite the flurry of patents by Gwynn and Haupt, Brooks outsmarted both of them by purchasing the original Couch patent of 1849 on the piston-cylinder, thereby securing the basis for any drill he wished to construct, without fear of suit.²⁰ However, Haupt was unaware of Brooks' purchase and continued his efforts to perfect his model.

After the 1864 legislative session ended, Haupt found himself biding his time until the next session

¹⁷Haupt to Andrew, March 17, 1864, Haupt Papers, Box 4.

¹⁸Haupt to Charles Toney, April 8, 1864, cited in Chapman, "Haupt," XV, pp. 13-14.

¹⁹All patents located in Haupt Papers, Box 20.

²⁰Chapman, "Haupt," XV, p. 20.

commenced, and when not occupied with his drill he attempted to sell his remaining coal lands along the Youghiogheny River. In October Haupt and his wife took a trip to Meadville and Oil City, Pennsylvania, seeking buyers for this property but found that not many people were interested in coal lands, no matter what their quality, when there was the prospect of overnight wealth in oil.²¹ Anna Cecilia returned to Chestnut Hill where they had moved in April 1864, and Haupt went to Connellsville on the Youghiogheny River to continue his quest for a buyer, but with no results.²²

Haupt became increasingly unable to raise small sums necessary for personal expenses, even to the extent of being unable to pay Abbott's legal fees, and to raise money he turned to his 1855 plans for the improvement of the Ohio River with the general intention of patenting several devices required by the plan.²³ The board of trade in Pittsburgh investigated the problem of the Ohio River in 1863 and concluded that of all the plans submitted, Haupt's was

²¹Anna Cecilia Haupt to Ella Haupt, October 8, 1864, cited in Chapman, "Haupt," XXVIII, p. 3.

²²Herman Haupt to Anna Cecilia Haupt, November 20, 1864, cited in ibid., pp. 4-5.

²³Haupt to Cartwright, July 19, 1864, Haupt Papers, Box 4.

the best.²⁴ Haupt took this recommendation and sent it, along with a letter in November 1864, to Senator A. H. Rice, chairman of the Senate Committee on Inland Waterways, asking that federal funds and authority be given to a private company to implement the plan. He included a copy of his 1855 corporate charter and a detailed explanation of the plans.²⁵ Rice did not follow up the suggestion, and Haupt filed his plans away for future reference.

In early December the tunnel committee met for the first time, and Haupt returned to Boston that month to plead his case. He asked the committee to recommend to the legislature that his remaining debts to subcontractors be paid, that Griswold be repaid his \$20,000 with interest, that the state drop its suit against him, and that the state pay Haupt for the west shaft.²⁶

The last proposal by Haupt arose from the fact that he personally paid for the land surrounding the west portal of the tunnel and when the state took over the work, the deed remained in his name. He considered evicting the tunneling crews from the portal, but decided rather to use the

²⁴"Report Made December 4, 1863, to the Board of Trade of Pittsburgh, by a Committee Appointed to Report on the Improvement of the Ohio River," Unidentified newspaper clipping, Haupt scrapbook, pp. 133-134.

²⁵Haupt to Senator A. H. Rice, November 30, 1864, Haupt Papers, Box 4.

²⁶Herman Haupt to Lewis Haupt, December 8, 1864, cited in Chapman, "Haupt," XXIV, pp. 4-6.

threat of eviction to press his claims. When the state refused to pay him for the land, Haupt deeded the whole parcel to Griswold on April 4, 1865, as security for his note.²⁷ The state then faced the possibility of a suit from Griswold for recovery of his money.

The committee hearings lasted from December 5 through December 10, 1864, and Haupt remained after adjournment in Boston to await their findings.²⁸ The state's suit against Haupt was argued in court on January 28, 1865, and Haupt waited that decision also.²⁹ When the committee finally made their report during February, they dismissed Haupt's first three requests outright. On the fourth, the ownership of the west portal, they recommended that the committee investigate further. The report dampened any prospects for success in the 1865 legislature, and Haupt returned to Pennsylvania to work on the drill.³⁰

Haupt had long been anxious to test all his

²⁷Haupt to Abbott, July 24, 1863, Haupt Letterbook, 1862-63, p. 449; Quit claim deed to Griswold, April 4, 1865, Haupt Papers, Box 4.

²⁸Herman Haupt to Lewis Haupt, December 10, 1864, cited in Chapman, "Haupt," XXIV, pp. 6-7.

²⁹Haupt to Cartwright, January 31, 1865, Haupt Papers, Box 4; Defendant's Points and Authorities in Commonwealth vs. Haupt, January 1865, Haupt Papers, Box 4.

³⁰Commonwealth of Massachusetts, Report of Special Committee on Hoosac Tunnel, Senate No. 50, February 1865, cited in Chapman, "Haupt," XXIV, pp. 8-10.

tunneling apparatus together, including the drills, drill stands, ventilating equipment, and electrical blasting, but the suspension of the Hoosac prevented such a trial. After he returned from the army, he searched for another tunnel to drive and finally made a deal with Isiah Caldwell, owner of a coal mine at Wiconisco, Pennsylvania, in Franklin County southwest of Harrisburg, who wanted a one-thousand-foot tunnel dug to reach a new coal seam. Caldwell agreed to pay \$18,000 for the tunnel, Haupt pledging to pay one-half of any expenditures over that amount. For his money, Caldwell was guaranteed to have sixteen drills put to work on the heading.³¹

In January 1865 Caldwell agreed to the terms, and on April 13 Haupt and Jacob arrived at the site to organize the work.³² From the very onset the experiment was a disaster. After gangs of miners were hired, it was found that the drills frequently broke down, the ventilation apparatus did not work properly, the men were overcome by fumes, the flexible hoses carrying the steam from the boiler to the drills leaked, and the drill stands required too much labor to dismantle for blasting and clearing out the rubble. The greatest problem was finding competent

³¹Haupt to Isiah Caldwell, January 2, 1866, Haupt Papers, Box 6.

³²Herman Haupt to Anna Cecilia Haupt, January 4, 1865, Haupt Papers, Box 4; Herman Haupt to Anna Cecilia Haupt, April 14, 1865, Haupt Papers, Box 4.

supervision, for Jacob had no experience in managing work and Haupt was unable to personally supervise on a full time basis. E. C. Smeed directed operations for a short period, but Haupt was unable to pay enough to retain his services.³³ Finally, on December 29, 1865, after spending \$14,344.34, Caldwell wired Haupt, "I have ordered work on the tunnel stopped."³⁴ Four days later, Haupt wrote Caldwell to try to get a resumption of the work, but had to admit that "the delays and expenditures at the Franklin tunnel in the introduction of machinery appear to have been excessive."³⁵ Haupt withdrew his machinery and returned it to Philadelphia, ordering Jacob to rework the basic design.

While Haupt was organizing the work at the Franklin tunnel in early March, the supreme court of Massachusetts issued its decision and found against Haupt ordering him to pay the \$53,000 overissuance. Haupt was aghast. He fired off a public letter to the newspapers and charged that "if this be equity in Massachusetts, I thank the Lord that I have been educated with different ideas of right and wrong."³⁶

³³Haupt to Caldwell, January 2, 1866, Haupt Papers, Box 5.

³⁴Caldwell to Haupt, December 19, 1865, cited in Chapman, "Haupt," XV, p. 19.

³⁵Haupt to Caldwell, January 2, 1866, Haupt Papers, Box 5.

³⁶Boston Daily Advertiser, March 16, 1865, Haupt Papers, Box 4.

But Haupt's legal troubles were not yet over, for Ballou and Simmons were anxious to bring their case to court. The suit was scheduled for June, but Haupt hired a lawyer who arranged to have the case postponed indefinitely.³⁷

With Haupt's financial position constantly deteriorating, he looked more than ever to the Massachusetts legislature in hopes of negotiating some settlement to bail him out of his difficulties. The session of 1866 promised to be more rewarding than the previous two because of the growing dissatisfaction with the work being performed by the commissioners. By December 1865 the commissioners had spent 1.8 million dollars, more than Haupt's total expenses, while excavating only a little more than twenty percent of what Haupt had taken out of the bore.³⁸ Haupt's hopes were further increased when Andrew finally left office and was replaced by Alexander Bullock in January, and although Bullock was politically allied with Andrew, Haupt hoped for better treatment.³⁹

With these hopes, Haupt journeyed once again to

³⁷Thayer Patten to Haupt, April 29, 1865, Haupt Papers, Box 4; Haupt to Cartwright, October 10, 1865, Haupt Papers, Box 4.

³⁸Hoosac Tunnel Broadside, n.d., in the Hoosac Tunnel Folder (Railway & Locomotive Historical Society Library, Baker Library, Cambridge, Massachusetts).

³⁹Chapman, "Haupt," XXIV, p. 11.

Boston in January and laid siege to the legislature.⁴⁰

Once in Boston, Haupt found an unexpected ally in Frank Bird, who was rapidly becoming as rabid on the subject of removing Brooks and the rest of the commissioners from the work as he had once been against Haupt.⁴¹ Haupt initially supported Bird's efforts to discredit the commissioners and on February 15 met with Bird for the first time to lay plans. Bird had authored another pamphlet exposing the inefficiency of the state management and likening it to Haupt's mismanagement, but after the meeting gave Haupt permission to retrieve the proofs from the printers and delete all unkind remarks pertaining to him.⁴² In fact Bird did an abrupt about-face and pressed for a public legislative hearing with Haupt and Brooks giving their respective plans for completing the tunnel.⁴³ The meeting was not held, and Haupt instead published several pamphlets on his

⁴⁰Haupt was in a better frame of mind over his prospects for success. He wrote his wife that after having eleven children ". . . how about No. 12. You have no doubt heard of the Irish lady who being asked why she continued to have children when her husband was in California said it was true that Patrick was away but then he had writ very often. I hope my frequent writing will not have any bad effect." Herman Haupt to Anna Cecilia Haupt, February 15, 1866, Haupt Papers, Box 5.

⁴¹Herman Haupt to Anna Cecilia Haupt, February 9, 1866, Haupt Papers, Box 5.

⁴²Haupt to Cartwright, February 15, 1866, cited in Chapman, "Haupt," XXVI, pp. 5-6.

⁴³Herman Haupt to Anna Cecilia Haupt, February 22, 1866, Haupt Papers, Box 5.

expenditures on the work and his experiment at the Franklin tunnel, recommending that his drills be introduced into the Hoosac and that the work again be let to a contractor.⁴⁴

Brooks was under fire from the legislature and needed an additional \$900,000 to continue the work. He rushed a "gang" of his drills, for which he had a patent pending, to work on the Hoosac in January of 1866. In March he invited the legislators to a public demonstration of the drills. Haupt also attended and admitted afterwards that "there is no question but the commissioners have a good drill. Still the essential features of it are covered by our patents and I hope to recover in a suit for infringement, . . ."⁴⁵

Three days later, after feeling the pulse of the legislature, Haupt wrote his wife "it is pretty certain the work will not be taken out of the hands of the commissioners. The visit to Fitchburg satisfied the legislature that the drills will work and they will not wish to make another

⁴⁴Herman Haupt, Hoosac Tunnel Session of 1866, Receipts and Expenditures of H. Haupt & Co. (Philadelphia: n.p., March 5, 1866); Herman Haupt, Communications of H. Haupt to President and Directors of Troy and Greenfield Railroad Company, and to Commissioners of Hoosac Tunnel (n.p.: no publisher, March 27, 1866); Herman Haupt, Hoosac Tunnel. Insufficiency of Air (n.p.: no publisher, April 25, 1866); Commonwealth of Massachusetts, Statements Before the Joint Standing Committee on Troy and Greenfield Railroad and Hoosac Tunnel, House of Representatives No. 386, April 10, 1866.

⁴⁵Herman Haupt to Anna Cecilia Haupt, March 27, 1866, Haupt Papers, Box 5.

change."⁴⁶ Haupt abandoned his plan of trying to oust the commissioners and instead came out in support of their continuance and of their appropriations bill, persuading Bird to do the same.⁴⁷

Brooks was reluctant to abandon the offensive and on May 12 released a report defending his drill in rebuttal to Haupt's earlier pamphlet. Brooks admitted publicly for the first time that he had purchased the Couch patent for less than \$900 and recited the results of Haupt's dismal experiment in the Franklin tunnel the year before.⁴⁸ Even Haupt had to admit that the testimony ". . . was of a very damaging character because too true."⁴⁹ Brooks concluded with a verbatim transcript of a letter Haupt had written in 1864 to the chief engineer of the Hoosac who had asked for a demonstration of Haupt's drill. In the letter Haupt wrote that "you will not be permitted to use either the

⁴⁶Herman Haupt to Anna Cecilia Haupt, March 30, 1866, Haupt Papers, Box 5.

⁴⁷Haupt to Cartwright, April 24, 1866, Haupt Papers, Box 5; Herman Haupt to Anna Cecilia Haupt, May 2, 1866, Haupt Papers, Box 5; Haupt wrote his wife that "Humanly speaking there is not a ghost of a chance that I will ever again have anything to do with Hoosac Tunnel. Everyone now sees that the Commissioners are at last on the right track." Herman Haupt to Anna Cecilia Haupt, March 31, 1866, Haupt Papers, Box 5.

⁴⁸Commonwealth of Massachusetts, Drilling Machines, Senate No. 289, May 12, 1866, pp. 18-26.

⁴⁹Herman Haupt to Anna Cecilia Haupt, May 17, 1866, Haupt Papers, Box 5.

Mt. Cenis apparatus or my own inventions, until the State of Massachusetts had paid for the right a sum sufficient to compensate me for the injury I have sustained through the arbitrary and unjust action of her executive and other agents."⁵⁰ Haupt had tied permission to use his drills with exoneration by the legislature, something over which Brooks had little control, forcing Brooks to develop his own apparatus. Haupt then had no realistic chance of suing the state for patent infringements.

Haupt's strategy to support the commissioners' appropriation bill was a good one. When the bill came up for a vote in the senate on May 26, an amendment was tacked on authorizing the governor to appoint a committee of three to examine and report on Haupt's claims, appropriating an open-ended amount of money, and authorizing the governor to make payment on the recommendation of the committee.⁵¹ The bill was passed the same day, and Haupt joyfully wrote his wife "the Lord has given us the victory."⁵² The bill was signed by Bullock on May 28.⁵³

⁵⁰Commonwealth of Massachusetts, Drilling Machines, Senate No. 289, May 12, 1866, p. 25.

⁵¹Chapman, "Haupt," XIV, p. 17.

⁵²Herman Haupt to Anna Cecilia Haupt, May 26, 1866, Haupt Papers, Box 5.

⁵³Copy of the bill, Haupt Papers, Box 5; Herman Haupt to Anna Cecilia Haupt, May 29, 1866, Haupt Papers, Box 5; Haupt also did not have to fear the opposition of Brooks any longer, for he was stricken by paralysis and did not recover. Alvah Crocker was appointed chairman of the commissioners. Herman Haupt to Anna Cecilia Haupt, May 19, 1866.

Haupt's financial position remained precarious during the spring of 1866 while the legislature was in session, but then things began turning for the better.⁵⁴ He took the first formal steps toward marketing his drill on February 19 by incorporating the American Drill Company and took Caldwell, Smede, and Jacob as partners and tendered an offer to Gwynn to enter the concern.⁵⁵ During April Haupt expanded its operations by contracting with a civil engineer in San Francisco to be the Pacific coast agent for the drill. This engineer put down a small amount of money for Jacob to use to start construction on a demonstration model.⁵⁶

Haupt had a string of successes in meeting his bills in the spring of 1866. He received a dividend of \$2,000 from his wife's Western Union Telegraph stock in April.⁵⁷ Haupt waited until after he received the dividend and then sold a portion of the stock to pay immediate

⁵⁴Haupt was in such bad financial shape that he could afford a fire in his hotel room, which cost seventy-five cents a day extra, only about half the time. Herman Haupt to Anna Cecilia Haupt, February 18, 1866, Haupt Papers, Box 5.

⁵⁵Herman Haupt to Anna Cecilia Haupt, February 18, 1866, Haupt Papers, Box 5.

⁵⁶Herman Haupt to Anna Cecilia Haupt, May 17, 1866, Haupt Papers, Box 5.

⁵⁷Haupt had about 800 shares. Herman Haupt to Anna Cecilia Haupt, March 26, 1866, Haupt Papers, Box 5.

debts.⁵⁸ His biggest worry was a note for almost \$7,000 which was due on May 25 to Burroughs, which if not paid would immediately bring the remainder of the debt, about \$80,000, due on the same day. The whole note was secured by Haupt's remaining Youghiogheny lands which were his last large asset.⁵⁹ After trying various people for a loan, including Devereux in Cleveland, he finally borrowed the entire amount from Charles Goodyear and paid Burroughs on May 19.⁶⁰ Haupt received good news from Galbraith when he came to Boston and agreed to withdraw his suit, probably in anticipation of receiving a share of any money recommended by the committee.⁶¹

Haupt still had serious problems, particularly with Massachusetts. On April 19 the state started proceedings to obtain the \$53,000 ruled against Haupt by the state supreme court.⁶² Haupt was also saddled with Jacob, whose

⁵⁸Herman Haupt to Anna Cecilia Haupt, May 18, 1866, Haupt Papers, Box 5.

⁵⁹Haupt to Cartwright, May 11, 1866, Haupt Papers, Box 5.

⁶⁰Herman Haupt to Anna Cecilia Haupt, May 11, 1866, Haupt Papers, Box 5; Haupt to Cartwright, May 17, 1866, Haupt Papers, Box 5; This Charles Goodyear was probably the prominent Pennsylvania shoe manufacturer.

⁶¹Haupt attributed Galbraith's actions to his joining the Presbyterian church. Herman Haupt to Anna Cecilia Haupt, May 18, 1866, Haupt Papers, Box 5.

⁶²Haupt to Tappan Wentworth, Chairman of Committee on Troy and Greenfield Railroad, April 19, 1866, Haupt Papers, Box 5.

machine shop was unable to contract for any work except Haupt's drill and was in need of \$10,000. Haupt promised to try to raise \$1,000 to keep him going temporarily.⁶³

After the legislative session ended, Haupt remained in Boston awaiting the governor's appointments, which he announced on June 28, 1866. The commission was headed by Judge L. F. Brigham of Boston, and Haupt thought the choices constituted "on the whole a poor commission," but hurried to meet with Brigham to get the investigation started.⁶⁴ However, Brigham was unable to start until September, so Haupt returned to Philadelphia to tinker with the drill.

The committee met the first week in October and sat for about six weeks examining the books of H. Haupt & Company and taking testimony from Haupt, Cartwright and opponents of the tunnel.⁶⁵ Haupt felt soon after the hearings started that the committee was stacked against him, and by October 17 he was writing Cartwright that "if I do not soon get away from the pack of liars and swindlers I shall go crazy. . . . We will not get a dollar if they can prevent

⁶³Herman Haupt to Anna Cecilia Haupt, May 15, 1866, Haupt Papers, Box 5.

⁶⁴Haupt to Cartwright, June 28, 1866, cited in Chapman, "Haupt," XXIV, pp. 20-21.

⁶⁵Herman Haupt to Anna Cecilia Haupt, October 6, 1866, Haupt Papers, Box 5; Herman Haupt to Anna Cecilia Haupt, November 4, 1866, Haupt Papers, Box 5.

it."⁶⁶ When the hearings ended early in November, Haupt remained in Massachusetts to arrange support in the approaching legislative session of 1867.

With any help at all from the committee Haupt had encouraging prospects for 1867. The drills which Brooks had introduced into the tunnel early in 1866 and which had impressed the legislators, soon proved their unworkability and were withdrawn for four months on July 20, and drilling was again being done by hand. When the commissioners, headed now by Alvah Crocker, came to the legislature in 1867 asking for an additional \$500,000 they had little to show for the \$900,000 appropriation of the previous year.⁶⁷

Frank Bird won a seat in the new legislature and was as eager as ever to oust the state from the work. He circulated through the lobbies trying to assemble a workable coalition to gain this end, and by late February approached Haupt with a concrete proposal. Bird decided the commissioners were eager to be relieved of their burden and thought they would step down if Haupt would agree to assume control of the work for the state. To appease the governor, Haupt would drop his claims for reimbursement and accept instead \$400,000 for his drill and put it to work in the tunnel. In this way the governor could justify repayment,

⁶⁶Haupt to Cartwright, October 17, 1866, Haupt Papers, Box 5.

⁶⁷Chapman, "Haupt," XV, p. 35.

and the state would be happily out of the construction business.⁶⁸ Haupt undoubtedly entertained the proposal, but decided finally to decline and await the decision of the committee.

He had a long wait, for the report was not made public until May 7 and turned out to be a disappointment. Haupt had asked for \$443,087.11 for losses plus interest, release from the state judgment, and release from claims for payment by subcontractors. He got none of these. The committee found instead that Whitwell's estimates had been correct and not those of the preceding engineers who had accepted incomplete work as completed. After examining Haupt's books they concluded that he had made an actual profit of \$10,432.94 and therefore the state owed him nothing. If they had stopped there, the report would have been a total disaster, but they left Haupt a loophole. The committee decided that Haupt had suffered an actual loss of \$100,000 in his 1858 transaction just prior to the first installment, as the stock he had received was now worthless, and that he had lost an additional \$50,000 on sale of the bonds received from the state, as the sales averaged far below even the \$4.44. Though Haupt had lost \$150,000, they held that this was a loss of anticipated profit, and therefore the state had no legal obligation to repay, though the

⁶⁸Bird to Haupt, February 21, 1867, Haupt Papers, Box 6.

state might voluntarily do so.⁶⁹

Haupt saw the report in late April before it was released. He immediately wrote a rebuttal, which was entered into the legislative record on May 8.⁷⁰ He rejected the offer of charity, stating that if the claim was not just and equitable, it ought not be repaid. He then went through all the ledgers again and retotalled his losses and arrived at a figure of \$381,624.81 including interest, and entered a memorial with Kimball's tunnel committee asking for that amount.⁷¹

The committee recommended, by some legerdemain, that Haupt was entitled to a gratuity of \$22,000 plus having the state drop its judgment against him if Haupt would drop his claims to the West shaft. On May 25, 1867, this proposal was brought before the house. Immediately an amendment was offered to raise the award to \$76,814, supported by Haupt's old enemies Frank Bird and Daniel Harris.⁷²

⁶⁹Commonwealth of Massachusetts, Report of Commissioners on Claims of H. Haupt & Co. for labor, service, machinery, materials, and land, on any payment and any expenditures in construction of Troy and Greenfield Railroad and Hoosac Tunnel, House of Representatives No. 392, 1867, cited in Chapman, "Haupt," XXIV, pp. 27-30.

⁷⁰Commonwealth of Massachusetts, Statement of H. Haupt on correcting supposed errors of report of commission on his claims, House of Representatives, No. 393, 1867.

⁷¹Ibid., cited in Chapman, XXIV, pp. 32-39.

⁷²Herman Haupt to Anna Cecilia Haupt, May 17, 1867, Haupt Papers, Box 6; Chapman, "Haupt," XXIV, p. 39a.

Although through Kimball's efforts the larger amount was defeated, the smaller award was passed on June 1 and sent to the governor for his signature.⁷³ Haupt gained little except the release from the state judgment, for he turned the \$22,000 over to Griswold in partial payment for his loan and gave him a note for the remaining \$7,000. But it was a small taste of victory after four straight years of defeat.⁷⁴

Nevertheless, Haupt was despondent at the conclusion of the 1867 session for he remained deeply in debt.⁷⁵ He toyed with the idea of taking a one-third interest in the patents on a streetcar invented in Pittsburgh in exchange for raising \$6,000 to construct a prototype, but decided against it. He wrote his wife that "the treatment I have received in Massachusetts has had such an effect on me that I do not feel like taking an interest in anything. I cannot get up my enthusiasm. I am good for nothing."⁷⁶

⁷³Copy of the bill cited in Chapman, "Haupt," XXIV, p. 39b.

⁷⁴Chapman, "Haupt," XVI, p. 28.

⁷⁵Haupt was considering asking Thomson for a loan but could not swallow his pride and go through with it. He could not even afford the twenty dollars necessary for a new refrigerator at Chestnut Hill. He offered to construct a temporary replacement for his wife from an old zinc bath tub. Herman Haupt to Anna Cecilia Haupt, June 7, 1867, Haupt Papers, Box 6.

⁷⁶Herman Haupt to Anna Cecilia Haupt, June 9, 1867, Haupt Papers, Box 6.

It took Haupt's perennial interest in the drill to arouse his flagging spirits during the summer of 1867. Two years earlier Haupt had patented his drill in England and after organizing the American Drill Company he secured the services of engineer James Asbury McKean as European distributor. McKean wrote Haupt in May of 1867 that he intended to exhibit the drill at the Paris exposition of that year and asked for complete detailed plans of all Haupt's tunneling apparatus for an accompanying explanatory booklet.⁷⁷ Haupt set to work after the end of the 1867 session, and drawing upon his experience in the Franklin tunnel he modified all of his equipment, although retaining the basic concepts, and published the revisions in a sixty-six page booklet.⁷⁸ Coincidentally, Haupt received an invitation to address the Royal Cornwall Polytechnic Society at Falmouth, England, on his drilling apparatus during their annual meeting in September. Haupt agreed and on August 7 he and Anna Cecilia left on their first trip to Europe.⁷⁹

Haupt addressed the society on September 9, 1867, on all aspects of his tunneling devices and gave particular

⁷⁷Herman Haupt to Anna Cecilia Haupt, May 17, 1867, Haupt Papers, Box 6.

⁷⁸Haupt, Tunneling by Machinery, passim.

⁷⁹Diary of Anna Cecilia Haupt, August 28 to September 15, 1867, Haupt Papers, Box 6, entry for September 7, 1867, hereinafter cited as Anna Cecilia's diary.

attention to their application to Cornish mining.⁸⁰ For added interest he explained his activities on the military railroads and particularly the methods used in the construction of bridges.⁸¹ After concluding his talk, he and Anna Cecilia went to London sightseeing and picked up the drill to be demonstrated in Paris. Haupt failed to see much of London, however, for the drill was not working properly, and he and McKean had to spend much of their time tinkering with the mechanism. On September 16, though, all was in readiness, and they left for Paris.⁸²

Haupt had singular success in Europe with the drill. He won a gold medal at the Paris exposition, which was presented to him personally by Emperor Napoleon III, and later received the first silver medal awarded by the Royal Cornish Society.⁸³ But any financial rewards following these successes eluded him. On the day Haupt left for Paris, his agent McKean received a patent on an improvement of Haupt's drill, which virtually nullified Haupt's previous patent,

⁸⁰Ibid.

⁸¹From Minutes of the British Association for the Advancement of Science Meeting at Dundee, September 4-11, 1867, Extract of Paper on the Application of Machinery to Boring and Tunneling by Herman Haupt, cited in Chapman, "Haupt," XV, pp. 45-46.

⁸²September 10-15, 1867, Anna Cecilia's diary.

⁸³The gold medal is in the possession of Mrs. Susan Haupt Adamson; Certificate accompanying the award of the silver medal, December 10, 1867, Haupt Papers, Box 6.

and six years later McKean patented still another improved drill and mounting frame.⁸⁴ But for all McKean's cleverness, neither he nor Haupt was ever able to sell copies of their drill for use in Europe.

Haupt returned to Boston in time to attend the opening session of the 1868 Massachusetts legislature and present another memorial for compensation.⁸⁵ His only prospect of recovering any additional losses lay in refuting Brigham's report and the hope that sentiment in the legislature would be favorable toward his request.⁸⁶ Because of friction between the tunnel commissioners there was considerable agitation among the legislators for return of the work to private contractors. Late in 1867 two of the three commissioners resigned in resentment of Alvah Crocker's dictatorial assumption of the work, and the new appointees failed to bring harmony to the board.⁸⁷ Furthermore, despite the reintroduction of an improved drill into the headings, very little progress had been made. Haupt hoped that in the confusion of returning the work to a private contractor he might slip his request through.

⁸⁴Drinker, Tunneling, pp. 260, 279.

⁸⁵Herman Haupt to Anna Cecilia Haupt, December 31, 1867, Haupt Papers, Box 6.

⁸⁶Chapman, "Haupt," XXIV, p. 41.

⁸⁷Herman Haupt to Anna Cecilia Haupt, January 10, 1868, cited in Chapman, "Haupt," XXIV, pp. 42-43.

The tunnel committee printed Haupt's memorial and slated hearings for April, asking both Haupt and Brigham to appear and testify as to whether Haupt was entitled to the \$150,000 he requested based on Brigham's report. However, when the legislative tunnel committee called for Brigham to appear he refused, and since the committee would not hold the hearings without him, they were never held, denying Haupt the chance to appear before the committee personally.⁸⁸ So Haupt, allied again with Bird, bypassed the committee and attempted to discredit the tunnel commissioners by printing a report showing that he had accomplished more in a shorter time with less money than the state.⁸⁹

On May 13 a resolve to pay Haupt \$150,000 was passed unanimously by the house and sent to the finance committee for recommendation along with a resolve to appropriate an additional \$600,000 for the tunnel commissioners.⁹⁰ The appropriation for the commissioners was brought out of committee first, on June 9, but there was such an overwhelming opposition in the house to state continuance of the work that it was defeated. Instead a measure was passed to abolish the tunnel commission and contract the

⁸⁸Haupt to Cartwright, March 10, 1868, cited in Chapman, "Haupt," XXIV, pp. 43-44.

⁸⁹Herman Haupt, Facts and Figures Concerning the Hoosac Tunnel (Boston: n.p., March 12, 1868), pp. 2-16.

⁹⁰Haupt to Cartwright, May 13, 1868, Haupt Papers, Box 6.

work to a private firm. Haupt's bill was pared down by the finance committee to \$53,000 and brought to a vote the same day.⁹¹ It was a propitious moment to bring up his bill, for the tunnel work now stood where it had when he suspended operations in July of 1861, and the futility of state intervention was readily apparent. The bill passed, and Haupt, along with all the other partners of H. Haupt & Company, signed a statement releasing the state from all claims by the contractors.⁹² Haupt's long ordeal before the Massachusetts legislature was at last ended.

When the bill finally passed, Haupt was in worse financial shape than ever. Anna Cecilia, without telling Haupt, pawned a ring for \$10.00 to purchase food,⁹³ and a quick calculation of notes coming due by the end of the year showed he owed \$16,792, on the account of H. Haupt & Company, including \$7,505 to Griswold for his note and \$2,150 to Carpenter as the result of an uncontested award by the courts.⁹⁴ Haupt also faced a possible judgment by

⁹¹Haupt to Cartwright, May 22, 1868, Haupt Papers, Box 6; Haupt to Cartwright, June 9, 1868, cited in Chapman, "Haupt," XXIV, pp. 47-48; Copy of signed bill, June 8 and 9, 1868, Haupt Papers, Box 6.

⁹²Copy of release, n.d., cited in Chapman, "Haupt," XXIV, p. 48.

⁹³Edward Hamilton to Anna Cecilia Haupt, May 28, 1868, Haupt Papers, Box 6.

⁹⁴Outstanding Liabilities, 1868, Haupt Papers, Box 18.

Ballou and Simmons, although he asked for and received from Spangler and Burroughs sworn statements that the Allegheny stock he gave them in payment was worth \$10.00 per share before the panic of 1857.⁹⁵ To add to his discomfort, Jacob continued on the verge of bankruptcy, and Haupt felt obliged to try to raise money to keep his machine shop in operation.⁹⁶

In the face of his precarious finances, Haupt was in no mood to quibble with his partners, who suddenly reappeared asking for a large share of the \$53,000. He wrote them in no uncertain terms that the money was to be divided according to a system of priorities, with payment of all liabilities of the firm at the top, followed by payment to Haupt and Cartwright for expenses since 1860, compensation for Haupt's seven years' attendance at the legislature, payment of Haupt and Cartwright for salaries while conducting the work, and last, any ". . . excess to be divided pro rata according to balances on the ledger."⁹⁷

This time Haupt made his proposals stick, except

⁹⁵Burroughs to Haupt, April 2, 1868, Haupt Papers, Box 6; Signed certification of the value of the Allegheny Railroad & Coal Company stock, April 3, 1868, Haupt Papers, Box 6.

⁹⁶Herman Haupt to Anna Cecilia Haupt, May 13, 1868, Haupt Papers, Box 6.

⁹⁷Haupt to Cartwright, June 6, 1868, Haupt Papers, Box 6; Haupt to Dungan, Steever, Cartwright, Galbraith and Derbyshire, June 14, 1868, Haupt Papers, Box 6.

with Galbraith, who demanded that his two notes totaling \$7,000 plus interest be paid before anything else. On July 2 Haupt paid him \$3,900 on one of the notes, and in return Galbraith dropped all claims against the company. Haupt collected \$4,800 for expenses plus a salary of \$7,000 for his seven years in Boston, and his pro rata share of the remainder came to \$10,108 for a total of \$21,908. Cartwright received \$7,624, Dungan and Steever each received \$1,388 and the remainder, \$16,792.00, went to repay old debts.⁹⁸

Although H. Haupt & Company relinquished all claims against the state in return for the 1868 settlement, Haupt's involvement with the Hoosac tunnel was not yet over. The Ballou and Simmons case was still before the courts, and in the summer of 1871 Dungan brought suit against Haupt and Cartwright to obtain a greater share of the 1868 settlement.⁹⁹ Haupt also made another try at resumption of the actual work after the state ousted the commissioners in

⁹⁸Haupt's pro rata share of the balance on the company books was 50 percent, Dungan and Steever each received 6.9 percent, and Cartwright received 36.5 percent. Cartwright received \$250 for expenses for an appearance before an investigating committee in Boston. Cartwright was now the vice-president of the American Meter Company of Philadelphia. Outside Liabilities, 1868, Haupt Papers, Box 18; Haupt to Galbraith, June 24, 1868, Haupt Papers, Box 6.

⁹⁹Haupt was also being sued for nonpayment of bills at the Franklin tunnel, although Caldwell should have paid them. Haupt to Cartwright, October 24, 1871, Haupt Papers, Box 6.

1868, when on the urging of his wife he bid \$5,000,000 to complete the work.¹⁰⁰ However, the bid was awarded to the Canadian contracting firm of Shanly Brothers. They successfully adapted compressed air drills and nitroglycerin to the work, and on November 27, 1873, the east and west shafts met. It was not until 1875 that the first trains rumbled through and not until July 1, 1876, was the tunnel declared open for business. The state had spent by January 1, 1877, a total of \$17,322,019 to complete Haupt's original \$2,000,000 contract, and the additional expenses of arching the complete tunnel and meeting the interest on the bonds still remained.¹⁰¹

Since the state owned the completed Troy & Greenfield and the Hoosac tunnel, it had the unwelcome responsibility of managing the property. Several schemes of management were tried, starting with a state board of trustees who ran the railroad ineffectively during 1874 and had to be replaced in 1875 by a manager under the direction of the governor and his council. The state was ultimately looking

¹⁰⁰Haupt had little stomach for resuming the work. He wrote his wife earlier in the year that "I have been asked whether I would take hold of the Tunnel again, and although such a movement would tickle my wife and make her throw up her bonnet with joy, yet I have but little appetite for such a dose." Herman Haupt to Anna Cecilia Haupt, January 10, 1868, cited in Chapman, "Haupt," XXIV, pp. 42-43; Drinker, Tunneling, p. xiv.

¹⁰¹Drinker, Tunneling, p. 332; Kirkland, Men, Cities and Transportation, I, 414.

for a consolidation of all the connecting lines between Boston and Troy under private management, but they were unable to sell the work because of Haupt.¹⁰²

The 1862 legislative act giving the state ownership stipulated that the Troy & Greenfield had the right of redemption for ten years after the opening of the tunnel and prohibited the state from spending over \$2,000,000 on the work. Thus the state's legal title was clouded by the redemption clause, which made a sale to private interests almost impossible. State officials were aware of the effects of the clause and in 1874 the attorney general issued an opinion contrary to the act stating that if the Troy & Greenfield elected to redeem the work it must pay the whole cost incurred by the state.¹⁰³

On January 4, 1875, Haupt started his campaign to redeem the work by sending a letter to the president and directors of the moribund Troy & Greenfield explaining their legal rights and claiming that the state need not have expended in excess of the \$2,000,000.¹⁰⁴ Haupt's

¹⁰²In 1880 the legislature authorized the state to lease the road to any of the connecting roads, but retain the ownership. Chapman, "Haupt, revised," 1869-1884, p. 5.

¹⁰³Ibid., p. 7.

¹⁰⁴Haupt to the President and Directors of the Troy & Greenfield R.R., January 4, 1875, Haupt Papers, Box 6.

decision to fight for redemption arose from the fact that H. Haupt & Company owned 8,501 shares, over one-third of the whole issue of stock of the railroad, taken in payment for construction at a par of \$100 per share which remained worthless as long as the state held title to the road.¹⁰⁵ In order to realize some return on the stock, Haupt returned to Massachusetts to fight for redemption. But he tried to remain inconspicuous, taking all action in the name of the Troy & Greenfield, not his own.

Haupt's first problem was to resurrect the Troy & Greenfield Company, which had not held a business meeting in almost ten years. Haupt was in Boston in February and again in March 1875 for reorganization. New officers were elected, Haupt remaining in the background but allowing his son-in-law, Fred Chapman, to be elected clerk and treasurer to represent him.¹⁰⁶

The company took no action until February 18, 1876, when it presented a petition to the legislature asking for a commission to examine the problem and decide exactly what

¹⁰⁵The contractors owned 8,501 shares paid in full and another 3,871 partly paid, for a total of 12,372. Haupt personally owned 2,000 shares. Stockholders of T.& G.R.R., 1878, Haupt Papers, Box 18.

¹⁰⁶Haupt to Cartwright, February 2, 1875, Haupt Papers, Box 6; Haupt to Edward Appleton, Chairman of the Board of Troy & Greenfield R.R. Co., March 17, 1875, Haupt Papers, Box 6; Railway World, Vol. XXV, June 19, 1875, 391; Lewis Rice, owner of ten shares of stock, was president, Appleton owned one share of stock.

requirements must be fulfilled to obtain redemption.¹⁰⁷ A week later Haupt succeeded in getting a series of seven articles published in the Boston Evening Traveler, explaining to the public what the company was asking.¹⁰⁸ On March 22, 1876, a hearing was held in the legislature at which the state attorney general suggested that any action by Haupt must come through the courts and not the legislature. This is just what Haupt did not want to hear, for a protracted suit would be very costly and he was finding it impossible to coax an assessment of \$1.00 per share from the stockholders to help pay the redemption costs. Nevertheless, he decided to go to court and hired four lawyers: D. W. Gooch of Boston, John C. Bullitt of Philadelphia, Joseph Choate of New York and Benjamin F. Thomas of Massachusetts. Haupt's only hope of paying his legal counsel was to sell a portion of his stock, hoping that the mere fact that he was trying to redeem might give it some value.¹⁰⁹

Haupt presented another memorial to the legislature in March of 1877, but the solons refused to consider it,

¹⁰⁷Copy of petition, February 18, 1876, Haupt Papers, Box 6.

¹⁰⁸The articles were published under the name of F. H. Forbes, which Haupt thought would ". . . make us less conspicuous." Haupt to Cartwright, February 18, 1876, Haupt Papers, Box 6.

¹⁰⁹Chapman, "Haupt, revised," 1869-1884, p. 27; Haupt, Reminiscences, p. xxvi.

holding that it must come before the courts.¹¹⁰ Finally, on January 21, 1878, the company entered its suit, which promised to drag on for years, in the supreme court of Suffolk County.¹¹¹ While the suit was in progress, the railroad elected a board of directors which included both Haupt and Chapman, and Haupt attempted to sell a controlling interest in the road to anyone with enough funds to carry on the suit.¹¹² Finally, thirteen months after the suit had been initiated, a new attorney general appeared before the court and denied that the courts had jurisdiction in the matter, and on June 24, 1879, the court agreed and dismissed the suit. Haupt then had to return to the legislature.¹¹³

The legislature in 1880 again took up the question and on March 23 succeeded in totally obfuscating the entire question by passing a bill stating that the problem was one for the courts, and ordering that the court must find that the Troy & Greenfield must pay the total costs expended by the state on the work plus interest, for redemption.¹¹⁴ The following year the legislature again failed to make a

¹¹⁰Chapman, "Haupt, revised," 1869-1884, p. 31.

¹¹¹Ibid., p. 32.

¹¹²Haupt to Cartwright, December 20, 1878, Haupt Papers, Box 7.

¹¹³Chapman, "Haupt, revised," 1879, p. 4.

¹¹⁴Ibid., 1880, p. 1.

decision on another petition entered by Haupt, and neither the courts nor the legislature would accept jurisdiction, leaving Haupt nowhere to turn.¹¹⁵

In 1883 the problem was partially solved when the legislature passed a bill authorizing the governor to make a contract with the railroad to obtain a clear title, dumping the problem directly into the executive's lap.¹¹⁶ The governor, Benjamin F. Butler, was not displeased with the act, for he was involved with a syndicate planning to buy the 13,000 shares of the Troy & Greenfield. Haupt had the authority to sell, organize a consolidated company and buy the state's interest in the tunnel at a reduced price. However, when some New York investors discovered Butler was involved, they dropped out of the syndicate and the sale was not consummated, much to Haupt's regret. After the failure of the syndicate, Butler lost interest and took no action to secure a clear title for the state.¹¹⁷

On August 1, 1884, the new governor, George D. Robinson, negotiated with the board of directors of the railroad and obtained a release from the redemption claims

¹¹⁵Ibid., 1881, p. 6.

¹¹⁶Copy of the Resolve, ibid., 1869-1884, pp. 51-51a.

¹¹⁷Cyrus Cummings to Haupt, January 26, 1883, cited in ibid., 1883, pp. 2-6; Haupt was at this time general manager of the Northern Pacific Railroad, headquartered in St. Paul, Minnesota, and far removed from the negotiations.

for a total of \$300,000, or \$8.00 per share for the 25,000 shares and \$100,000 for the deed of conveyance and the release.¹¹⁸ Eight cents on the dollar was not much of a bargain for Haupt, who had accepted the stock at par, but the governor after admitting that it was unjust added, "I am not willing to go before the legislature with any offer that I cannot defend as a good bargain for the state of Massachusetts."¹¹⁹

H. Haupt & Company netted a total of \$150,608 for the sale of their stocks to the state and from the adjustment of accounts with the railroad. This money was divided among the partners in proportion to their interest in the contract, with Haupt receiving \$58,737.12 for his 39 percent, Dungan, Steever, Galbraith, Cartwright and Derbyshire each received \$15,060.80 for their respective 10 percent, and Thomson, Scott, and Burroughs received \$16,566.88 for their 11 percent.¹²⁰

The only partner still living was Dungan, and true to form he filed suit against Haupt for a larger share of the proceeds, charging that Haupt had received and kept large amounts of money depriving the other partners of an equitable profit. Dungan badgered Haupt for another year,

¹¹⁸Ibid., 1884, p. 55. ¹¹⁹Ibid., p. 57.

¹²⁰Chapman, "Haupt," XVI, p. 26; The portions awarded to the deceased members of the firm went into their estates.

sending his creditors to collect their money from Haupt and obtaining bench warrants to restrict his movements.¹²¹ The case was finally argued on August 4, 1885, and after Haupt produced an exhaustive resumé of his expenses, Dungan decided to drop the entire matter.¹²² The remaining suit, brought by Ballou and Simmons twenty years earlier, was still pending as late as 1889, but there is no evidence that the case was ever resolved by the courts.¹²³

Haupt's involvement in the Hoosac contract had a profound effect upon his personal life and career. He entered the work at the age of thirty-eight, a moderately wealthy man flushed with success and anticipating even greater achievements. At the final settlement in 1884, Haupt was sixty-seven years old, on the wane of his career, and in an era of large personal fortunes he was struggling desperately to remain financially afloat.

It is impossible to state with certainty how much money Haupt lost in the Hoosac, for even he did not know. But it is a fact that when he undertook the work in 1856, he possessed a half a million dollars worth of unencumbered

¹²¹Lewis Haupt to Charles Edgar Haupt, September 12, 1884, Haupt Letterbook, 1863-1884, p. 728; Lewis Haupt to Charles Edgar Haupt, September 26, 1884, Haupt Letterbook, 1863-1884, p. 743.

¹²²Statement of H. Haupt, August 4, 1885, Haupt Papers, Box 19.

¹²³Davis to Ballou, October 16, 1889, Haupt Papers, Box 6.

property and when he received his last appropriation in 1868, he had less than \$100,000 of assets remaining, all heavily encumbered. His monetary loss was in excess of \$400,000, a piddling sum compared to the \$20,000,000 total cost of the railroad and tunnel, but he lost more than money. He left in the Hoosac his deft financial touch and his timing. His entrepreneurial drive remained, but now he had an urgent desire to recoup all his losses in one fell swoop on a shoestring investment. He no longer showed the unerring eye for profitable investment as he sunk what little capital he could raise in undeveloped real estate, various inventions, and a goat company.

Although Haupt's postwar business ventures largely came to naught, he still retained his reputation as a first rate administrator and manager of railroads. These skills insured a demand for his talents and he served on various lines with distinction. But after the last appropriation in 1868, Haupt was emotionally tired and sought seclusion and time to regain his bearings.

CHAPTER XIV

HAUPT RETURNS SOUTH

By the end of the 1868 legislative session Haupt was in an acute fit of depression. Although his short-term financial situation was much improved thanks to the favorable legislation of that year, his remaining property was heavily mortgaged, he had no immediate prospects for employment, he had to accept the realization that he had finally lost the Hoosac contest, and his relationship with his wife was becoming increasingly strained.

The latter problem bothered Haupt most of all. He was devoted to Anna Cecilia, and the discord was unfamiliar. But she had the annoying habit of reminding Haupt pointedly of his past errors, particularly his business misjudgments, and in contrast pointing out his contemporaries who had increased their fortunes.¹ The tension between the two started in 1864 and increased through 1868 as Haupt's

¹Part of Anna Cecilia's testiness can no doubt be attributed to an advanced case of tuberculosis which she contracted early in the 1850's, weakening her lungs and making her a partial invalid for the last thirty years of her life. Mrs. Susan Haupt Adamson to author, April 27, 1968; Charles Edgar Haupt, The Life Story of Charles Edgar Haupt (n.p.: no publisher, 1934), p. 5; Death notice of Anna Cecilia from Herman Haupt to friends, April 17, 1891, in Hensel Family Papers (Minnesota Historical Society, Minneapolis, Minn.), hereinafter cited as Hensel Family Papers.

financial position worsened and the seemingly endless proceedings in Boston dragged on. When the last session ended in 1868, Haupt determined to get away from his creditors and his nagging wife and unwind.

He took four of his sons, Herman, Charles Edgar, Frank and Alex, along with his contraband servant William, and a nephew Alvin Haupt,² and escaped to his coal properties at Suter's on the Youghiogheny River "away from the world, its trifles, its vanities, [and] its base ingratitude," for the summer.³ The men rehabilitated a shack for sleeping quarters, constructed a dam for water and enjoyed the rural atmosphere. Anna Cecilia came out at the beginning of the summer, but left after a few days to be with her daughters at Chestnut Hill.⁴ Haupt remained at Suter's until the early fall when the boys had to return to school in Philadelphia.⁵

Haupt remained at home for a short time during September and then left to examine three farms for sale in Occohannock Neck, Virginia, where he remained for over a

²Charles Edgar Haupt, The Life Story of Charles Edgar Haupt, p. 6; It is not known when Haupt secured the services of William or even his last name. William remained with Haupt until the former's death and frequently appears in family photographs.

³Herman Haupt to Anna Cecilia Haupt, July 9, 1868, cited in Chapman, "Haupt," XI, p. 15.

⁴Herman Haupt to Anna Cecilia Haupt, June 29, 1868, cited in ibid., p. 13.

⁵Charles Edgar Haupt, The Life Story of Charles Edgar Haupt, p. 7.

month. His relationship even while away from Anna Cecilia did not improve, as they continued quarreling over finances. Haupt wrote her from Virginia, "I have felt that our expenditures in connection with family and other matters were excessive and beyond my means, and yet I cannot speak to you on the subject without exciting irritation and unhappiness."⁶

Haupt returned to Chestnut Hill in November and mulled over the idea of once again becoming a farmer as he had in Maryland in 1841. Since there was little prospect of any other employment, he purchased the farms on February 8, 1869, for a total of \$20,000, paying \$4,000 in cash and giving his note for the remainder.⁷ The three farms comprised 1,350 acres fronting on a creek running into Chesapeake Bay and seemed ideally suited for raising oysters and watermelons. Along with the farms Haupt purchased a sloop to carry his produce to the Philadelphia market. He appointed Jacob, who had lost his machine shop in the fall of 1868 despite periodic loans from his father totaling almost \$10,000, as manager of the farms and sent him on ahead while Haupt made preparations for moving the family.⁸

⁶Herman Haupt to Anna Cecilia Haupt, October 1, 1868, Haupt Papers, Box 6.

⁷Abstract of Deed, February 8, 1869, Haupt Papers, Box 19.

⁸Chapman, "Haupt," XI, p. 17.

Haupt's second attempt at farming was a bigger disaster than his earlier experiment. Jacob turned out to be an inept manager, purchasing a large number of oysters and dumping them in huge piles in the creek where they died and decayed.⁹ When Haupt arrived, he put his sons to work planting, whitewashing the buildings, and making the house habitable for the expected arrival of Anna Cecilia. However, she remained at Chestnut Hill, coming down only once and staying but a short time. Haupt remained all summer and harvested a large melon crop, enough to fill the sloop, which he sent up the Delaware and Chesapeake Canal to Philadelphia. Unfortunately the watermelon market was glutted, and it proved impossible to sell the crop, which rotted in the hold of the ship. The year turned out to be a total financial loss for Haupt.¹⁰

Haupt's failure at truck farming drained some of his enthusiasm for the rural life, and he decided to sell his farms if possible and engage in some other business. In October, he left for Giles County, in the mountains of western Virginia, to look over a 108,000 acre tract of land

⁹Ibid.

¹⁰All of Haupt's sons and William accompanied the sloop to Philadelphia and Haupt gave them permission to eat any broken watermelons. Judging from Edgar's description of the trip it is a wonder there were any melons left by the time the boat reached the market. Charles Edgar Haupt, The Life Story of Charles Edgar Haupt, p. 7.

for sale known as the Chambers Survey.¹¹ The land was almost virgin wilderness, with no known mineral resources, but contained a small stand of valuable white pine that was unfortunately inaccessible. Its highest point reached 4,500 feet, where a lake called Mountain Lake and a small resort hotel were situated. However, the elevation of the lake restricted the tourist season to the warm months of July and August.¹²

Haupt really had no intention of entering the resort business, for he planned on dividing up the land into 100-acre plots and selling it as farms. With this in mind, he negotiated a swap with the owner Edwin G. Booth, trading his remaining encumbered Youghiogheny coal lands, Chestnut Hill, and the three Virginia farms on which he made a profit of \$12,000, for the 108,000 acres. The original deed was signed December 14, 1869, but the transaction was not completed until a year later. Haupt placed all the land in his son Lewis's name, probably to prevent seizure by

¹¹Lewis M. Haupt to Henry L. Davis, October 12, 1869, Haupt Papers, Box 6; During the fall of 1869 Haupt experimented with methods of preserving wooden paving blocks. On January 25, 1870, he received a patent on a process for drying, coloring, and preserving wood and other fibrous materials. This was followed by a second patent on May 24, 1870, for the application of the process specifically to wooden paving blocks. However, there is no evidence that the product was ever commercially feasible. U.S. Congress, House, Annual Report of the Commissioner of Patents for the Year 1870, 41st Cong., 3rd Sess., 1870, Ex. Doc. 89, p. 108.

¹²Chapman, "Haupt," no chapter number, pp. 1-3.

creditors.¹³

Before the ink was dry on the original deed, Haupt organized the New River Land Association of the State of Virginia to dispose of the land to prospective settlers. He was well aware that most of the land was wilderness and not tempting to most potential farmers, and to raise money to improve the land he organized a joint-stock company. The survey was divided into 100-acre plots, each represented by a share of stock. Each share was offered for sale at \$500, but the buyer did not have to locate his 100 acres; instead, he had the option of holding his stock and receiving a dividend from the sale of the remaining lands. Haupt induced his former wartime comrade, Major General Samuel P. Heintzelman, to join him in the land development corporation and the stock was offered for sale in the spring of 1870.¹⁴ However, no stock or land was sold

¹³Edwin G. Booth is not to be confused with the actor Edwin T. Booth; Deed #5, 74,000 acres to Lewis M. Haupt, December 14, 1869, copied in the Haupt Letterbook, 1863-1884, p. 175; Abstract of Deed for Virginia farms, December 14, 1870, Haupt Papers, Box 19; The remaining deeds to the Chambers Survey are listed in Haupt Letterbook, 1863-1884, pp. 175, 178. There are a total of seventeen; It is not known how much Haupt paid for the entire tract, but Thomas J. Pressly and William H. Scofield, Farm Real Estate Values in the United States by Counties, 1850-1959 (Seattle: University of Washington Press, 1965), pp. 42-44, estimate the average value of the farm land in Craig, Giles, and Monroe Counties in which the survey was located, to be \$9.00, \$8.00, and \$13.00 respectively, far above what Haupt paid.

¹⁴Herman Haupt, Prospectus of the New River Land Association of the State of Virginia (Philadelphia: The Leisenring Steam Printing House, 1870), passim.

because of the remoteness of the tract and the lack of transportation.

Haupt had foreseen that the inaccessibility of the land would discourage prospective purchasers and was taking steps to secure transportation.¹⁵ In this he was aided by Tom Scott, now vice-president of the Pennsylvania Railroad, who was ambitious to extend the domain of his railroad into the South and West. To launch his invasion of the South, Scott needed a connecting route from the Pennsylvania to the major railway systems of the region, and his covetous eyes fell on the Shenandoah Valley Railroad, which was chartered in 1867 and was to run from Shepardstown, West Virginia, to Russelville, Tennessee, right through the middle of Haupt's 108,000 acres. Construction of the road would double or triple the value of his land, but after almost three years the railroad still had no formal organization nor had it even surveyed the projected route.¹⁶

Scott and Haupt buried their former differences arising from the dispute over the position of Assistant Secretary of War to work toward a common goal. After the

¹⁵To reach the resort involved a train trip to Christiansburg, thirty-one miles from Mt. Lake, then a stage trip to Newport, Virginia, and the last eight miles on foot or horseback. Charles Edgar Haupt, The Life Story of Charles Edgar Haupt, p. 8.

¹⁶Joseph T. Lambie, From Mine to Market: The History of Coal Transportation on the Norfolk and Western Railway (New York: New York University Press, 1954), p. 10.

two men attended President Grant's reception on January 13, 1870, they remained in Washington for a few days undoubtedly discussing the Shenandoah Railroad.¹⁷ Scott decided to commit the Pennsylvania to the project, and in the following August a subsidiary of the railroad, the Central Improvement Company, entered into a contract to construct the entire 233 miles of the line.¹⁸ Haupt was hired as chief engineer and along with J. P. Lesley, the noted geologist and president of the American Philosophical Society, led a survey party during the fall of 1870 to determine the route. The site selected ran very close to Mt. Lake, thereby enhancing its resort potential, and then southwestward along the Shenandoah Mountains into Tennessee. A small amount of grading was started late in 1870.¹⁹

After Haupt finished the survey and filed his formal report completing his duties, he was asked to make an examination of a granite quarry four and one-half miles from Richmond on the James River. Late in 1870 Haupt visited the property, and his report printed in 1871 showed that he considered its granite to be of exceptionally high quality.

¹⁷Anna Cecilia Haupt, Washington, D.C., to Lewis M. Haupt, January 14, 1870, Adamson Collection.

¹⁸Lambie, From Mine to Market, p. 10.

¹⁹Report of General Herman Haupt, Chief Engineer, and of Professor J. P. Lesley, Geologist, to the Shenandoah Valley Railroad Company (Philadelphia: Helfenstein & Lewis, 1870), pp. 5-10.

In fact, he was so impressed with its possibilities that he decided to purchase the whole quarry of 123 acres.²⁰

With characteristic energy, Haupt wasted no time in seeking out the owners and negotiating a purchase price. The land was owned by Allison White, while the Virginia Granite Company, which quarried the stone, was owned by Thomas Ackley and George Hall and four other men. Haupt had to deal with each man individually. On January 21, 1871, he purchased the deed to the property from White for \$11,240, which he paid partially in cash and the remainder with his note.²¹ Haupt then proceeded to purchase the stock held by the members of the granite company, using his remaining coal properties and \$13,586 which he borrowed from Philadelphia banks.²² By April 1, he had 8,083 of the 10,000 shares in his possession after spending \$43,043.21.

²⁰Chapman, "Haupt," IV-5, pp. 16-17; A copy of this report has not been located.

²¹Deed to Haupt, January 2, 1871, Haupt Papers, Box 6.

²²Haupt gave 525 shares of stock in the Moshannen Land and Timber Company and 100 shares of the Kittaming Coal Company as part of the purchase price. He may have owned these shares before entering the Hoosac contract, but it is doubtful. He probably acquired them by trading portions of his Youghioghney coal lands before he purchased Mt. Lake. Bill of Sale to Thomas Ackley, March 20, 1871, Haupt Papers, Box 6; Bill of Sale to Thomas Ogden, March 1, 1871, Adamson Collection; Haupt also borrowed on his remaining shares of Western Union Telegraph stock from his sister-in-law, Mary Norton, April 5, 1871, Hensel Family Papers.

The remaining shares were held by James Neall.²³

After Haupt gained control, he reorganized the company into the Old Dominion Granite Company with himself as president, his son Lewis as secretary and general agent, and his brother-in-law Peter Paul Keller as treasurer, with offices at Lewis' home on Walnut Street in Philadelphia.²⁴ In reality, Lewis carried on most of the work, procuring contracts and selling the stone. The quarry employed thirty-five men with a monthly payroll of about \$1,500 and sold about four to five hundred tons of stone per month.²⁵ The operation was usually profitable, although the margin was small and subject to extreme variation depending upon the existence of contracts.²⁶ Lewis started immediately to try to win a large contract for the stone on the new state department building in Washington, writing Hamilton Fish, the Secretary of State, explaining the integrity of a corporation headed by Haupt and also writing Albert Ordway,

²³Statement of Cost of O. D. Quarry to H. Haupt in Cash on or about April 1, 1871, Haupt Letterbook, 1863-1884, p. 195; Lewis M. Haupt to Albert Ordway, July 5, 1871, Haupt Letterbook, 1863-1884, p. 94.

²⁴Chapman, "Haupt," IV-5, p. 17.

²⁵Lewis M. Haupt to Austin Brown, June 15, 1871, Haupt Letterbook, 1863-1884, p. 94.

²⁶For example, in March 1871, the quarry lost \$1,452.59. In other months it showed a profit of between \$1,000 and \$2,000. Monthly Report of the Old Dominion Granite Company, March 1871, Haupt Papers, Box 18; In 1882 the concern showed a profit of \$18,473.04. From notes made by Haupt in 1883, Haupt Papers, Box 18.

who had connections in Washington, offering him a half interest in the firm if he was able to secure the contract.²⁷

The Old Dominion did not receive the government business, and by the time Haupt left for Mt. Lake at the beginning of the summer of 1871 he was again in financial trouble, primarily because he had overextended himself to purchase the quarry. He also owed for money he borrowed to set Jacob up in business again, this time in a shop to manufacture spiral heating furnaces, on which Jacob was barely making expenses.²⁸ Lewis remained in Philadelphia managing the quarry and trying to find a buyer for the whole Chambers Survey. He had little luck with the latter despite assurances from Tom Scott that the Shenandoah Valley Railroad would indeed be constructed. Scott had become president of the line in April, but construction lagged.²⁹ Nevertheless, with Scott's promise in hand, Lewis wrote to everyone who might be interested in purchasing the land for appreciation, but got no buyers.³⁰

²⁷Lewis M. Haupt to Hamilton Fish, July 22, 1871, Haupt Letterbook, 1863-1884, p. 130; Ordway to Lewis M. Haupt, July 2, 1871, Haupt Letterbook, 1863-1884, p. 110.

²⁸Charles Edgar Haupt, The Life Story of Charles Edgar Haupt, p. 8.

²⁹The 1871 edition of Haupt and Lesley's report to the Shenandoah Valley Railroad lists Scott as president of the line.

³⁰Lewis wrote a prospective buyer, "I have just left Col. Scott's office and can assure you that the prospects of the road being built speedily are of the very best." Lewis M. Haupt to Harris Taylor, July 27, 1871,

Haupt stayed at Mt. Lake making what improvements were possible without spending money for the coming tourist season. He wrote Ordway trying to sell him some of his stock in the quarry or make a loan on the stock³¹ but by July Lewis wrote that his father had ". . . started for Richmond but went to Wash. to see Ordway for money matters were pressing him so hard he could not rest in the mountains."³² Haupt tried to sell Ordway the quarry for \$50,000 or a half interest for \$26,000, but the deal fell through. Haupt wrote his wife philosophically that "perhaps we are not yet prepared for prosperity and must be tried a little longer."³³ His relationship with Anna Cecilia was much improved, and for her fiftieth birthday Haupt gave her the deed for 6,000 acres containing the hotel, lake, saw mill, and a small falls.³⁴

After spending the summer unsuccessfully trying to raise money, Haupt finally struck a deal with the

Haupt Letterbook, 1863-1884, p. 139; Despite all of Scott's assurances the road was not completed until after 1882. All work on the road came to a halt in the depression of 1873. Lambie, From Mine to Market, pp. 11, 141.

³¹Lewis M. Haupt to Ordway, July 24, 1871, Haupt Letterbook, 1863-1884, p. 134.

³²Lewis M. Haupt to James E. Neall, July 27, 1871, Haupt Letterbook, 1863-1884, p. 142.

³³Herman Haupt to Anna Cecilia Haupt, August 7, 1871, Haupt Papers, Box 6.

³⁴Herman Haupt to Anna Cecilia Haupt, July 22, 1871, Haupt Papers, Box 6.

stockholders in the original granite company, Thomas Ackley and George Hall. Haupt sold these men and several others 6,000 shares in the company for \$4.00 per share, a loss of \$2.00 per share, and agreed to pay all the debts of the company prior to January 1, 1872, at which time as a minority stockholder he would turn over the quarry to the new management.³⁵ On the face of the transaction it was unfavorable enough, but Haupt discovered that when he purchased the old Virginia Granite Company it had a debt of \$3,000 which Ackley had assured him was not valid. Haupt later discovered that he did legally owe the money, and now under the terms of the sale he became solely responsible for payment. Nevertheless, he took his \$24,000 on October 4, 1871, and the new management agreed to carry Haupt's debt until he was able to pay. Haupt still retained 2,083 shares and remained as nominal head of the company until 1876, but took no active part in its operations.³⁶

After Haupt left the quarry business, he returned to his land development scheme and set about revising it to make it more appealing to small investors who might establish small farms. A detailed explanation of his new plans

³⁵ Bill of Sale, October 4, 1871, Haupt Papers, Box 6.

³⁶ Thomas Ackley to Haupt, January 17, 1872, Haupt Papers, Box 6; It was not long before Ackley started pressing Haupt for repayment of the \$3,000 on which interest was accumulating at the rate of one percent per month. Ackley to Haupt, April 10, 1872, Adamson Collection.

was published in 1872 under the title of Co-Operative Colonization, in which he advocated a system of semicomunal living which he described as ". . . not prescribed as the panacea for all the ills to which flesh is the heir, but it will cure many and alleviate more."³⁷ Haupt suggested that joint-stock corporations be established to purchase, preferably from him, 10,000 acres at \$5.00 per acre. They could raise the money by selling 1,000 shares of stock at \$100 per share to small farmers or investors on a monthly payment plan. Haupt expressed a willingness to accept forty percent of the purchase price in paid in stock as a down payment and the remaining \$30,000 after the third year in \$10,000 annual installments.³⁸

Under this plan the colonization company would have enough capital to make improvements on the land, start small industry, build substantial housing, schools, roads, libraries and churches. Haupt suggested that the company establish as common property a flock of sheep, a cheese factory, a small charcoal iron furnace, a saw mill and a shoe factory, and pay all the farmer-owners a dividend on their profits. For transportation, Haupt proposed a narrow gauge log railroad to connect with the anticipated

³⁷Herman Haupt, Co-Operative Colonization, Containing suggestions for colonists, plans of association, and estimates of prospective profits (Philadelphia: Wm. Syckelmoore, 1872), p. 3.

³⁸Ibid., p. 14.

Shenandoah Valley Railroad, built of hewed timbers in place of rails and utilizing rubber-tired locomotives. He estimated the cost per mile to range between \$400 and \$800 dollars, less than one-tenth the cost of conventional railroads.³⁹ Despite its uniqueness, the scheme was a failure. An association was formed in Philadelphia under this general plan to purchase 10,000 acres from Haupt, but for unknown reasons it never advanced past the planning stage.⁴⁰

Unable to sell the property, Haupt was forced to try to meet the taxes by running the Mt. Lake hotel as a summer resort. The original hotel, a three-story frame structure located on a small rise at the end of the lake, was too small to operate only two months a year at a profit, and Haupt hoped to put the operation in the black by doubling its size.⁴¹ He spent the summer of 1872, with the help of local inhabitants, cutting timber, hauling it to the saw mill, and building a large addition on the hotel. Anna Cecilia operated the old hotel during the construction with the help of hired hands catering principally to a clientele from the eastern shore of Virginia who sought relief during the hot season. Although some of the guests

³⁹Ibid., pp. 8-11; Logging railroads were later built upon this principle and used very successfully in the Northwest.

⁴⁰Ibid., p. 16.

⁴¹Photograph of original hotel at Mt. Lake, Adamson Collection.

came from as far away as New Orleans, the resort stubbornly refused to become a paying proposition. However, Haupt remained in the fall of 1872, making further improvements to the outbuildings and roads in hopes of turning a profit the following year.⁴²

While Haupt was occupied at Mt. Lake, Tom Scott was busy creating a railroad empire in the South that would soon give Haupt his first steady salary since 1856. Scott had taken the initiative in organizing the Southern Railway Security Company, an operation created specifically to sell its own stock and use the proceeds to purchase controlling interests in Southern railroads. This was probably the first holding company established in the United States and proved a model for the many that followed.⁴³ Scott attracted many prominent investors into the company, including Thomson; James Donald Cameron, son of Simon Cameron; James Roosevelt, father of Franklin Delano; George Washington Cass, president of the Pennsylvania subsidiary Pittsburgh, Fort Wayne & Chicago Railroad; and Henry B. Plant, soon to own his own network of roads in the South.⁴⁴

⁴²Charles Edgar Haupt, The Life Story of Charles Edgar Haupt, p. 8.

⁴³Julius Grodinsky, Transcontinental Railroad Strategy 1869-1893: A Study of Businessmen (Philadelphia: University of Pennsylvania Press, 1962), p. 17.

⁴⁴John F. Stover, The Railroads of the South, 1865-1900: A Study in Finance (Chapel Hill: University of North Carolina Press, 1955), p. 101.

Scott anticipated the eventual connection of the Pennsylvania with a Southern transcontinental route running across the South, and connecting with his Texas & Pacific, as yet unbuilt. To achieve this goal, the holding company first had to secure control of the lines connecting the major railroad centers in the South.⁴⁵ The first major line acquired by the group was the Richmond & Danville Railroad running from Richmond to Greensboro, North Carolina, which was purchased from the state of Virginia on August 31, 1871. The group next acquired the North Carolina Railroad from Goldsboro to Charlotte, North Carolina, and the unfinished Atlanta & Richmond Air Line Railroad which was already partly owned by the Richmond & Danville, from Charlotte to Atlanta, giving the Pennsylvania a through route to Atlanta. Plans were also in motion by 1871 for control of the remaining roads to New Orleans, to give the Pennsylvania a through route from New York to that city.⁴⁶ The whole of the route between Richmond and Atlanta was given the general designation of the Piedmont Air Line Railway.⁴⁷

⁴⁵Burgess and Kennedy, History of the Pennsylvania Railroad, p. 279.

⁴⁶Grodinsky, Transcontinental Railway Strategy, p. 18.

⁴⁷"Twenty-sixth Annual Report of the Richmond-Danville R.R. Company Embracing the Reports of the President, Auditor, and Engineer and Superintendent Together with the Proceedings of the Stockholders at their Annual

Scott needed a general manager to finish the construction of the Atlanta & Richmond and conduct the daily operations of the entire system with a view toward protecting and expanding the interests of the Pennsylvania in the South. For this position he tapped Haupt in late November 1872.⁴⁸ Haupt was still working at Mt. Lake when he accepted the appointment, and he wrote Anna Cecilia to send his son Charles Edgar, who had dropped out of college, to come down and oversee the improvements at the resort. Haupt packed and rode his horse up to the Christiansburg railroad station, leaving it there with a letter of instructions for Edgar and left.⁴⁹

It did not take Haupt long to discover that managing railroads in the postwar South was a vastly different operation than in prewar Pennsylvania. The route controlled by Haupt faced serious problems that rendered its very existence problematical. There were breaks in the gauge, particularly over the North Carolina Railroad, the roads were poorly constructed and ran through lightly populated rural areas, the volume of freight was small and costs

Meeting held in the City of Richmond, December 10, 1873," Richmond & Danville Rail Road Company Annual Reports 20-29, 1871-1876 (Richmond, Va.: Geo. W. Gary Book & Job Printer, 1876), p. 135, hereinafter cited as Richmond & Danville Twenty-Sixth Annual Report.

⁴⁸Haupt assumed his duties December 1, 1872. Ibid.

⁴⁹Charles Edgar Haupt, The Life Story of Charles Edgar Haupt, p. 8.

of carriage high, competition was keen for the small amount of business available, and there was a general disposition on the part of the local inhabitants to eye the expansion of the Pennsylvania into their section with distaste.⁵⁰

Haupt's first task was to complete and open the route to Atlanta, a job that was finished by September 28, 1873. As soon as the through route was opened, Haupt made arrangements to carry passengers the 1,382 miles from New York City to New Orleans in sixty-six hours, the fastest overland route between the two cities. On other fronts Haupt had less success. He was unable to effect a common gauge for all the lines, which was resisted by local communities that benefitted from the drayage and hotel business at the transfer points.⁵¹ Likewise, he was unable to institute a stable rate structure with competing roads, principally because most rates were made locally by freight agents paid on a tonnage basis who persisted in undercutting

⁵⁰Haupt thought that local animosity was not directed against the Pennsylvania as much as it was against the concept of consolidation of railroad lines. Haupt stated that ". . . this prejudice is chiefly the result of ignorance and misrepresentation. . . . It is not true that the tendency of consolidation is to build up monopolies prejudicial to the interests of the people. On the contrary, it leads directly to the reduction of rates and expenses, increased facilities, development of resources, and superior accommodation to the customers of the line." Richmond & Danville Twenty-Sixth Annual Report, pp. 136-137.

⁵¹Ibid.; Poor, Manual of Railroads, 1874-75, p. 37.

any arrangements made between the corporate managers.⁵²

But Haupt's greatest problems arose from the arrival of the 1873 depression, the worst the United States had ever experienced, just as his through line was opened. The depression decreased the Piedmont's 1874 net earnings over twenty-six percent from the previous year despite a cutback in maintenance expenses.⁵³ Nevertheless, the whole system still showed a profit of over \$300,000, and the board of directors of the Richmond & Danville gave Haupt a vote of confidence by electing him a member of that body.⁵⁴

The depression intensified competition between Southern railroads and led to rate wars and a loss of revenue for all the lines.⁵⁵ This chaotic situation led Haupt to rethink his basic rate philosophy, formulated while superintendent of the Pennsylvania, that a railroad should cut rates to their lowest possible levels to encourage settlement of industry and the development of contiguous land. Haupt reasoned that the South was basically agricultural and destined to remain so, and that no amount of rate cutting would induce manufacturing industries to resettle in the region. Moreover, the inefficiency of the agricultural

⁵²"Twenty-Seventh Annual Report of the Richmond & Danville R.R. Company," Richmond & Danville Rail Road Company Annual Reports 20-29, 1871-1876 (Richmond, Va.: Geo. W. Gary Book & Job Printer, 1876), pp. 314-315.

⁵³Ibid., pp. 309-313. ⁵⁴Ibid., p. 221.

⁵⁵Ibid., p. 314.

system of sharecropping and the lack of immigration into the region meant that the railroads could expect no great increase in the volume of agricultural products carried. Haupt thought the result was that ". . . few railroads in the Southern States can do more than pay the expenses of operation and interest on debts. Some have been bankrupted for want of sustaining business, and others linger over an uncertain fate."⁵⁶

To improve the situation Haupt suggested that the railroads avoid an appeal for aid from the state legislatures, which usually results in ". . . greater evils than those which are proposed to be remedied."⁵⁷ Instead, Haupt proposed a general increase of rates on all commodities to provide a fair return to the railroads, a consolidation of competing lines, and the establishment of an organization representing all the major rail lines in the South with the necessary power to set rates, allocate tonnage between competing roads, and enforce its decisions. Under this plan no roads would be forced out of business, and the increased cost of goods necessitated by increased rates would largely be shouldered by those outside the South who purchased cotton goods. The steady income gained from the resultant stability would enable the roads to improve their

⁵⁶Ibid., pp. 315-316.

⁵⁷Ibid., p. 316.

maintenance facilities and offer improved services.⁵⁸

Haupt proposed to Thomson, before the latter died in 1874, that the Piedmont absorb its major competitors, since the pooling and the division of territory arrangements made between the lines broke down almost as soon as they were drawn up.⁵⁹ However, Haupt made his suggestion at an inopportune time, when the stockholders of the Pennsylvania had appointed an investigating committee to examine the accounts of the Southern Railway Security Company. Their committee recommended that the whole investment be written off and the Pennsylvania abandon its expansion into the South.⁶⁰

Under pressure from his stockholders, Thomson

⁵⁸Ibid., pp. 315-316; In 1874 Haupt testified before the Windom Committee in Washington justifying the higher freight rates charged by Southern roads on the grounds that the traffic density was much lower in that region. Haupt calculated that freight rates in the South were about four or five cents per ton mile while the rates were less than two cents per ton mile in the North. Haupt suggested consolidation of the lines in the South as a means of lowering the rates. William H. Joubert, Southern Freight Rates in Transition (Gainesville: University of Florida Press, 1949), pp. 20-21; U.S. Congress, Senate, Report of the Select Committee on Transportation-Routes to the Seaboard, 43rd Cong., 1st Sess., 1874, Rept. 307, Pt. 2, p. 400.

⁵⁹Haupt to George Roberts, Vice-President of the Pennsylvania Railroad, December 9, 1875, Haupt Papers, Box 6.

⁶⁰Report of the Investigating Committee of the Pennsylvania Railroad Company--Appointed by Resolution of the Stockholders at the Annual Meeting Held March 10, 1874 (Philadelphia: Allen, Lane, & Scott's Printing House, 1874), p. 76.

ignored Haupt's proposal. Haupt dropped his plans for consolidation and sought instead a permanent organization to stabilize conditions. Fitful starts had been made in this direction as early as 1872 with the establishment of the Western and Southern Railway Association, but that organization had been largely impotent and was dissolved in May 1874. Throughout 1874 arrangements had been made on an independent basis between the lines for pooling of the cotton business to eastern centers, but no attempt was made to extend the allocations into 1875.⁶¹

On December 21, 1874, at the meeting of Southern railroad executives in Macon, Georgia, where rate schedules were being set for the coming year, a proposal was made to establish a permanent rate-making organization.⁶² A general convention of all Southern railroad and steamship companies was called for July 22, 1875, in Atlanta, to set up the machinery. At the July meeting Haupt addressed the convention, explaining the problems faced by the railroads and recommending the establishment of a three-man commission with power to revise freight classifications, establish increased rates, fix penalties for violators, examine corporate records, and impose punitive measures against nonmember

⁶¹Joubert, Southern Freight Rates in Transition, pp. 40-42.

⁶²Henry Hudson, "The Southern Railway & Steamship Association," Quarterly Journal of Economics, V (November, 1890), 71-72.

railroads undercutting the rates of the commission. Haupt suggested that a committee be formed immediately to report to the general convention at its next meeting in September a plan for such a commission and to write an address to the public explaining the reasons for the organization.⁶³

The convention adopted Haupt's recommendation, but Haupt did most of the committee's work. He ". . . worked out the plan, wrote the report, prepared articles of association, rules and regulations, and an address to the public."⁶⁴ When the convention reconvened in Atlanta on September 16, Haupt's work was put before it and adopted with little modification. The only major revision was to increase the number of men on the commission from three to seven and to create the post of general agent to act as an executive officer of the newly formed Southern Railway and Steamship Association. The general agent was given broad powers ". . . to revise classification, fix rates, control [the] clearing house for settlement of monthly balances between all companies, establish a bureau of statistics, hear and decide all questions of controversy that may arise between the companies, and when business is pooled, determine

⁶³"Convention of Southern Railroad and Steamship Lines," The Railway World, September 25, 1875, pp. 630-631.

⁶⁴Haupt to Cartwright, September 27, 1875, Haupt Papers, Box 6; See also: Address of the Southern Railway and Steamship Association to the Public, At Atlanta, October 13, 1875 (Atlanta, Ga.: Dunlop & Dickson, 1875), passim.

the equitable proportions of each party."⁶⁵

The next matter of importance was to select the general agent, a task which rested with the committee of seven. After a brief consultation they issued a report naming Haupt as their choice, but he declined, explaining: "it would not be courteous to the Penna. R.R. Co. to sever my connection with the line without their approval and stated that I could not consent to be a candidate until an opportunity had been afforded of consultation with the parties whose interest I represented."⁶⁶ After Haupt tentatively declined, the convention appointed a committee to meet October 1, 1875, to make the final selection. Haupt left Atlanta and went to Philadelphia to consult with officials of the Pennsylvania, who ". . . advised me to accept as I may be of great service to the rail road's interest. I have accordingly notified the committee and it is probable that I may be appointed."⁶⁷

But when the convention met again on October 13, 1875, it selected Colonel Albert Fink, vice president of the Louisville and Nashville Railroad, as the general agent instead of Haupt. However, Fink turned out to be a good

⁶⁵Haupt to Cartwright, September 27, 1875, Haupt Papers, Box 6.

⁶⁶Haupt to Roberts, December 9, 1875, Haupt Papers, Box 6.

⁶⁷Haupt to Cartwright, September 27, 1875, Haupt Papers, Box 6.

executive, breathing life into Haupt's creation and earning praise from such an astute observer of railway practice as Charles Francis Adams, who termed the organization ". . . a great advance on any other form of solution which has yet been suggested."⁶⁸

Haupt's decision to decline the position of general agent until he could consult with his superiors led to his dismissal by the Pennsylvania Railroad. Resentment between Haupt and the parent company had been building even before Thomson's death in 1874, principally because Haupt's powers as general manager of their Southern interests were greatly diluted from those he possessed as general superintendent on the Pennsylvania. His office in the South had no well-defined duties; he was even powerless to remove incompetent subordinates.⁶⁹ But what really miffed Haupt was his inability to influence overall general policy, for he never understood that policies for the Pennsylvania's Southern interests were made from the home office and not by the company's representatives in the field. Moreover, Haupt's suggestions for consolidation with competing lines, the establishment of a fast freight subsidiary over the Piedmont's

⁶⁸Adams erroneously states that Fink devised and matured the whole organization. Charles Francis Adams, Railroads: Their Origin and Problems (New York: G. P. Putnam's Sons, 1878), p. 198.

⁶⁹Haupt to Roberts, December 9, 1875, Haupt Papers, Box 6.

trackage, and the leasing or purchase of lines to other points in the South, were made at a time when the Pennsylvania was contracting its interests in the region to appease its conservative New England stockholders.⁷⁰ By 1876 the Pennsylvania had divested itself of all its Southern properties except the profitable Richmond & Danville.⁷¹

Haupt had the added handicap that he was not on friendly terms with the hierarchy of the Pennsylvania Railroad during the 1870's. He never fully reconciled his differences with Thomson after their dispute a decade before, and his improved relations with Scott came about only because the two men found it mutually profitable to work together on the Shenandoah Valley Railroad. Furthermore, a new generation of managers was appearing on the Pennsylvania, men who had not worked under Haupt in the 1850's and therefore owed him no allegiance, either personal or professional, and who denied him a voice in the inner councils of the road.⁷²

As a result of what the management of the Pennsylvania considered Haupt's slowness in attempting to secure the post of general agent of the Southern Railway and Steamship Association, which would have given that road's

⁷⁰Ibid.

⁷¹Burgess and Kennedy, History of the Pennsylvania Railroad, p. 281.

⁷²George Roberts, Haupt's immediate boss, is a good example of the new generation of executives.

abbreviated interests a preferred position in the South, Haupt's position of general manager was abolished by the board of directors of the Richmond & Danville in October 1875, a not-so-subtle hint that he was through.⁷³ Moreover, he was not reelected as a member of the board and as Haupt explained in his letter of resignation on December 9, 1875, "I am now adrift."⁷⁴ His formal employment ended January 1, 1876, but Haupt left prior to that date, although he had no immediate prospects for a new job. However, events were unfolding in western Pennsylvania that would offer Haupt the chance to battle his old employers on the Pennsylvania, and this time win.

⁷³The Pennsylvania thought Haupt made a misjudgment when he declined the nomination to consult with the officers of that road. They thought Haupt should have immediately accepted the position and his delay in doing so cost the Pennsylvania much influence in the South. Haupt to Roberts, December 9, 1875, Haupt Papers, Box 6.

⁷⁴Ibid.

⁷⁵Extract from the Minutes of the Board of Directors Meeting, December 9, 1875, Haupt Papers, Box 6.

CHAPTER XV

HAUPT THE ENGINEER

When Haupt left the Piedmont Air Line Railroad, he found himself in the familiar position of being without a steady income. As he had done many times before, he concentrated his attention on recovering his losses from the state of Massachusetts, spending the spring of 1876 in the old familiar haunts of Boston petitioning the legislature. Haupt was also making plans for another tourist season at Mt. Lake, which unfortunately because of its isolation had incurred annual losses of \$2,500 to \$3,000 since he took it over.¹ He was still unable to arrange a substantial loan to make much needed improvements at the resort and pay the legal fees for the redemption of the Troy & Greenfield.²

While Haupt was engaged in retrieving his financial losses, activities in the Oil Regions of his home state were rapidly maturing to a point where engineering skill like Haupt's was in great demand by groups seeking an advantage. The oil business had passed through a boom period

¹Haupt to Cartwright, March 5, 1876, Haupt Papers, Box 6.

²Haupt to Cartwright, March 15, 1876, Haupt Papers, Box 6.

of about twenty-five years in which there was a chaotic scramble among individuals for prominence and control, but by the early seventies it was being taken over by large companies which were waging a prolonged, expensive fight to achieve dominance. The lines of battle were drawn, pitting Standard Oil and its allied refining interests and the oil-carrying railroads against the oil producers and the remaining small independent refineries.

One of the biggest advantages held by Standard Oil was its arrangement with the Pennsylvania, Erie, and other railroads which granted it rebates not only on their own oil shipped over the lines, but also on all oil shipped by competing interests.³ This rebate structure gave John D. Rockefeller a clumsy control over the output of crude oil by manipulation of the cost of transportation and a virtual death grip on the small independent refiners who were

³This system of rebates and drawbacks was established by the railroads under pressure from the South Improvement Company, an organization composed of refining and shipping interests created specifically to pressure the railroads into secret rebates. The president of the company was Haupt's old friend, ex-Assistant Secretary of War Peter Watson, but Rockefeller was the power of the organization. When news of the company broke in the Oil Regions in February 1872, the producers started an oil blockade against both the South Improvement Company and the railroads that granted special privileges. The blockade forced both Rockefeller and the railroads to back down and the company was disbanded, but the secret rebate structure continued. Ida Tarbell, The History of the Standard Oil Company, ed. David M. Chalmers (New York: Harper & Row, 1966), pp. 28-43.

unable to compete against a corporation they were indirectly subsidizing each time they shipped a barrel of oil.

One of the men directly responsible for the rate structure so favorable to Standard Oil was Haupt's former employee, Henry Harley. Harley had migrated to the Oil Regions right after work was suspended on the tunnel in 1862 and had established himself first as a petroleum buyer and three years later as a producer in the West Virginia oil fields.⁴ In 1867 Harley was back in Pennsylvania building short feeder pipelines to carry oil from the wells and the nearest railroad, and soon expanded his horizons by buying up feeder pipelines with financial backing from Jay Gould of the Erie Railroad. In January 1868, Harley was elected president of the Allegheny Transportation Company, which controlled most of the pipelines near Oil Creek, and because of his control of the local transportation, was named by Gould as "oil agent" for the Erie Railroad with instructions to divert oil away from the Pennsylvania over the Erie.⁵

To increase the oil traffic over the Erie, Harley made a deal with several small refineries in Cleveland, including Rockefeller, Andrews & Flagler, to ship their oil

⁴Ibid., p. 14.

⁵Julius Grodinsky, Jay Gould: His Business Career 1867-1892 (Philadelphia: University of Pennsylvania Press, 1957), p. 83.

exclusively over the Erie and Atlantic & Great Western System in return for a one-fourth interest in the Allegheny Transportation Company and large secret rebates.⁶ This gave Rockefeller his initial advantage, which he exploited to the fullest. Within three years Rockefeller was strong enough to ignore Harley and deal advantageously with competing railroads, and a year later, in 1872, Harley lost the backing of Gould. Harley's troubles increased as his reorganized Pennsylvania Transportation Company saw the business of the independent refineries swallowed up by Standard Oil. Moreover, the Empire Transportation Company, run by Joseph D. Potts, ex-general manager of the Pennsylvania's Philadelphia & Erie Railroad, began to buy up feeder pipelines to supply oil to the Pennsylvania.⁷

Abandoned by his former allies and faced with strong competition, Harley sought to free himself from dependence on the major trunk lines by constructing a long distance crude oil pipeline from the Oil Regions to the seaboard at Baltimore. The idea was not new, for in 1874 a

⁶Charles McArthur Destler, Roger Sherman and the Independent Oil Men (Ithaca, N.Y.: Cornell University Press, 1967), p. 16; President of the Atlantic and Great Western Railroad was Haupt's former subordinate, John Devereux. Tarbell, History of Standard Oil, p. 57; Haupt, Reminiscences, p. 313.

⁷Ralph W. Hidy and Muriel E. Hidy, Pioneering in Big Business 1882-1911: History of Standard Oil Company (New Jersey) (New York: Harper & Brothers, 1955), p. 11; Wilson, History of the Pennsylvania Railroad Company, II, 67.

patent medicine manufacturer, "Doctor" David Hostetter, had started construction of a pipeline from the oil fields to Pittsburgh but when denied a crossing over the West Pennsylvania Railroad, owned by the Pennsylvania, he began negotiations for the sale of his Columbia Conduit Company.⁸

The problems facing Harley were formidable, since there were great doubts about the technical feasibility of pumping crude oil 300 miles through a pipe using steam pumps. Moreover, Pennsylvania afforded no right of eminent domain to pipelines outside a five-county area around the Oil Regions, a situation reflecting the control of the state legislature by Scott and the Pennsylvania Railroad. This necessitated the lease or purchase from individual owners of every foot of right of way to the seaboard, making it exceptionally easy for opposition interests to block construction.⁹

Nevertheless, armed with an 1875 charter allowing him to construct the pipeline, Harley was determined to go ahead. In late March or early April of 1876, he contacted Haupt and asked him to draw up the technical plans for

⁸ Arthur Menzies Johnson, The Development of Petroleum Pipelines: A Study in Private Enterprise and Public Policy, 1862-1906 (Ithaca, N.Y.: Cornell University Press, 1956), p. 55; Harold F. Williamson and Arnold Daum, The American Petroleum Industry: The Age of Illumination 1859-1899 (Evanston, Ill.: Northwestern University Press, 1959), p. 406.

⁹ Destler, Roger Sherman, p. 39; McClure, Old Time Notes of Pennsylvania, II, 473.

constructing the pipeline and estimate its probable costs and earnings. The very scope of the proposal intrigued Haupt, who had experimented with hydraulics during his investigation of naval contracts and investigated the resistance of pipes to flow in his experiments with the tunneling apparatus.¹⁰

Haupt set to work with his customary energy and produced his preliminary report for Harley on April 26, recommending that the line was entirely feasible. However, Haupt thought that two large problems had to be overcome: first, the spacing of the pumping stations along the line so that the work of all pumps was exactly equalized and second, the setting on each pump was such that a uniform flow of oil would be automatic. The calculations to determine these technical questions would depend upon the route chosen for the line and the measurement of elevations and distances. Haupt estimated that the total cost for a four-inch line would be \$1,250,000 and the annual cost of operation would not exceed \$250,000.¹¹

In his preliminary report Haupt went on to estimate that the line would have a capacity of 5,000 barrels per day or 1,500,000 barrels per year and that the cost of transporting a single barrel through the pipe to the

¹⁰Chapman, "Haupt," IV-4, p. 21.

¹¹A copy of this report was not found; however, relevant portions of it were cited in ibid., pp. 21-22.

seaboard would be sixteen and two-thirds cents. Since the cost to railroads of transporting a single barrel to the seaboard was a minimum of forty cents while the charge to producers averaged about \$1.25, the pipeline would be able to compete advantageously.¹²

Harley kept his plans secret until he received Haupt's assurances that the project could be built and then announced them at a public meeting at Parker's Landing on July 25, 1876.¹³ The reaction of the producers and the independent refiners was enthusiastic, although there was some doubt that the line was anything more than another visionary project. However, the reaction of the railroads, Standard Oil, and competing pipelines was predictably hostile.¹⁴ Harley sought to nullify the opposition of competing pipelines by reorganizing his Pennsylvania Transportation Company as the Associated Pipe Line Company and bringing in representatives of competing companies to sit on his board of directors. The reorganization was carried

¹²Ibid.; Chapman probably picked up the minimum figure of forty cents from Ida Tarbell, The History of the Standard Oil Company (New York: McClure, Phillips, & Co., 1904), II, 11; The Titusville Weekly Herald, July 27, 1876, in an article taken from the Boston Traveller, puts the figure at fifty-five cents, but whatever the cost to the railroads, the pipeline promised to undercut them by a large margin.

¹³Tarbell, History of Standard Oil, 1904, I, 174-175.

¹⁴Titusville Weekly Herald, July 27, 1876.

out during July, and the list of managers published August 3 included Haupt as chief engineer and Benjamin Butler as counsel.¹⁵

If anything, the reorganization increased the attacks on Harley. The opposing pipelines began a rate war that dropped rates far below the cost of pipage, hoping to force him out of business before construction started. Rumors were started that he had been guilty of mismanagement and that his company was in financial trouble, and attacks were made on Haupt's unreliability as an engineer.¹⁶ The old charges were paraded that an engineer who could not design a bridge that would stand and who had spent seventeen million dollars in digging one tunnel could hardly be relied upon to estimate with any accuracy the cost of a new and untried transportation improvement such as a pipeline. Haupt's calculations were dismissed as ". . . ridiculously low and unreliable."¹⁷ Haupt replied with a defense of his work in Massachusetts and his present estimates for the pipeline, concluding with the plea "please, gentlemen, let me alone. I have had enough of

¹⁵Destler, Roger Sherman, p. 57; Chapman, "Haupt," IV-4, p. 22; Titusville Weekly Herald, August 3, 1876.

¹⁶Destler, Roger Sherman, p. 71; Tarbell, History of Standard Oil, 1904, I, 175.

¹⁷A Card From General Haupt, cited in Tarbell, History of Standard Oil, I, 175.

newspaper controversy in former years. I am sick of it."¹⁸

Haupt had another opportunity to attack his detractors in the middle of August when Harley invited a number of eastern capitalists to a banquet at Parker's Landing to raise money for the pipeline. Haupt spoke to the assemblage and the Titusville Weekly Herald stated editorially that "the General here took to pieces the criticisms of the press in regard to him personally, . . ."¹⁹ Haupt also explained to the capitalists in his defense that although he had never seen a pipeline before his study, "I found that lines were in successful operation for sixteen miles, and that the cost was only one per cent per barrel per mile. All that was necessary therefore, was to keep repeating this until tide water was reached."²⁰

Haupt continued to work on the technical problems raised in his preliminary report and on August 1, 1876, he presented Harley with a set of complete plans for pumps and regulators to maintain an even flow of oil; for automatic emergency stopping mechanisms that would be activated in case of a leak; for air and gas exits; and for the pipes

¹⁸Ibid.

¹⁹Titusville Weekly Herald, August 17, 1876.

²⁰Ibid.

and joints.²¹ He also reported the results of the surveys started on April 27, and still underway, which were looking for the easiest route across the state and through Maryland. One of the parties was led by Jacob, once again unemployed after the failure of his furnace business, and dependent upon his father for support. Haupt deemed the selected route excellent because it ran very close to all possible rail points, thus reducing the cost of building roads to haul the eighteen-foot pipe sections to the construction site.²²

At the end of the report Haupt could not resist taking another swipe at his detractors, including the Pennsylvania Railroad. He concluded that "cheap transportation is a necessity, the public demands it, and the voice of the people will be heard. A pipe line bears about the same relation to the tank car that the railroad did to its predecessor, the turnpike road."²³

During the late summer and early fall of 1876 crews were sent into the countryside to lease a right of way across the state in the face of mounting opposition. Country papers warned farmers that the pipeline would spoil

²¹Herman Haupt, Pennsylvania Transportation Company, Its Proposed Pipe Line to the Tide Water, Supplementary Report of General Herman Haupt, Civil Engineer, Hydraulic, Mechanical, Practical and other Questions Considered (Philadelphia: n.p., August 1, 1876), passim.

²²Ibid., p. 26n.

²³Ibid., p. 28.

their water, curdle their milk, and burn everything in sight when it ruptured.²⁴ Harley fought back, but it was becoming obvious that the charges leveled against him of mismanagement were only too true. It was the custom in the Oil Regions for pipeline operators to issue certificates based on the amount of oil in their storage tanks which became negotiable, but a law passed in 1874 requiring certificates to be based upon the exact amount of oil in the tanks was widely violated, and Harley was no exception.²⁵ By the middle of October, oil dealers stopped accepting Harley's certificates on the suspicion that they were not backed by oil, and on November 1 a check of his tanks confirmed this suspicion. On that afternoon Harley was arrested and held under \$75,000 bond, and three days later Haupt resigned as chief engineer.²⁶ The first attempt to construct a pipeline to the seaboard was over.

But the project itself did not die. The idea was picked up by the Petroleum Producer's Union, an organization of independent producers fighting to free themselves from the stranglehold of Standard Oil and the trunk lines.

²⁴Tarbell, History of Standard Oil, 1904, I, 177.

²⁵Johnson, Development of Petroleum Pipelines, pp. 55-56.

²⁶Ibid., p. 58; Titusville Weekly Herald, November 2, 1876; Harley's property was advertised for sale on November 23 and he was indicted by a Grand Jury on December 14. Titusville Weekly Herald, November 23, and December 14, 1876.

The company included Bryan D. Benson, Robert E. Hopkins and David McKelvy, who had leased the Columbia Conduit Company lines from Hostetter.²⁷ When Hostetter sold his pipelines to Standard Oil in 1877, Benson, Hopkins, and McKelvy joined the independents.²⁸

The new organization once again employed Haupt as chief engineer and charged him with the responsibility of securing secretly the 230-mile right of way from Butler County, Pennsylvania, to Ann Arundel County, Maryland.²⁹ Haupt was aided in this task by a new state law which granted pipelines a right of way across railroads if the latter had only an easement and did not hold the property in fee.³⁰ Armed with this information, Haupt selected a route that crossed railroads at these points, and by January 3, 1878, he was able to announce to the newspapers that he had secured the entire route for the Seaboard Pipeline and 300 acres of land in Maryland for the construction of an independent oil refinery.³¹ The legal aspects of

²⁷Johnson, Development of Petroleum Pipelines, p. 71; Destler, Roger Sherman, pp. 69-70.

²⁸Francis M. Buente, Autobiography of an Oil Company (New York: Privately Printed by the Tide Water Oil Company, 1923), p. 17.

²⁹Johnson, Development of Petroleum Pipelines, p. 71.

³⁰Williamson and Daum, American Petroleum Industry, p. 438.

³¹Baltimore American, January 3, 1878, cited in Johnson, Development of Petroleum Pipelines, p. 71.

acquiring the right of way were handled by oil attorney Roger Sherman, who retained lawyers in all the counties through which the pipe was to pass and scrutinized each title abstract to ensure that it was legally air tight.³²

On March 7 the newspapers reported that a contract had been let for the pipe and the plans were completed for starting construction on the telegraph line that would parallel the pipeline.³³ But the papers were deceiving, for the company was having difficulty securing the necessary capital to build the line. During March of 1878, members of the Producer's Union approached Franklin Gowan, president of the Reading Railroad, a line anxious to share in the oil trade,³⁴ and made a deal whereby in return for diverting the oil over the Reading's lines, Gowan agreed to put up \$250,000 of the \$625,000 needed for construction and the Producer's agreed to a contract stipulating that they would not build closer to the tidewater than Williamsport

³²Destler, Roger Sherman, p. 70.

³³The Derrick's Hand-Book of Petroleum: A Complete Chronological and Statistical Review of Petroleum Developments During 1898 and 1899. Daily market quotations, tables of runs, shipments and stocks, oil reports, field operations, and other subjects of interest and importance to the oil trade (Oil City, Pa.: Derrick Publishing Company, 1900), II, 264.

³⁴Marvin W. Schlegel, Ruler of the Reading: The Life and Times of Franklin B. Gowen, 1836-1899 (Harrisburg: Archives Publishing Company of Pennsylvania, 1947), pp. 179-182.

for a period of eight years.³⁵

Despite the influx of new capital, the project still did not get underway. The managers were anxiously watching the increasing production of the new Bradford oil field which their proposed pipeline would not serve. While they debated whether to change the route of the line to serve the new field, the independent producers who had agreed to invest in the project began to lose confidence under the barrage of unfavorable publicity and the predictions of disaster promoted by opposition interests. By October 1878 all but eight of the original promoters had deserted the project, and it appeared that Haupt would never get the chance to test his plans.³⁶

Catastrophe was averted when Benson, Hopkins, and McKelvy finally decided to reroute the pipeline and took quick steps to restore the firm's financial condition by incorporating the Tide Water Pipe Company Limited with Benson as president, on November 22, 1878.³⁷ The company absorbed the assets of the old Seaboard Pipeline, including its right of way, and was capitalized at \$625,000, including the \$250,000 of the Reading.³⁸ The new company proposed to

³⁵Johnson, Development of Petroleum Pipelines, p. 74.

³⁶Destler, Roger Sherman, p. 73.

³⁷Derricks' Hand-Book of Petroleum, II, 286.

³⁸Buente, Autobiography of an Oil Company, p. 19.

build the line from Coryville, Pennsylvania, in the Bradford field, 109 miles to Williamsport on the Reading. Since the new line required a new right of way in addition to a revision of the original technical plans, Haupt was again hired as chief engineer and charged with both responsibilities.³⁹

Haupt lost no time in starting to secure a new right of way, but he found it was more difficult than it had been in 1877. Standard Oil and the railroads were more determined than ever to stop him. It was becoming evident to these interests that if the pipeline worked as Haupt predicted it would, then they were in real danger of losing their transportation monopoly. To block Haupt's efforts, Standard Oil attempted to secure control of a "dead line" running north-south across Pennsylvania, which would cut the pipeline off before it reached Williamsport.⁴⁰

Not to be outdone, Haupt resorted to some devious tricks himself. He sent Jacob into the field on a phony survey at some distance from the actual planned location, counting on the fact that Standard Oil did not know that a pipeline needed no survey.⁴¹ Haupt then organized a corps

³⁹Allan Nevins, Study in Power: John D. Rockefeller, Industrialist and Philanthropist (New York: Charles Scribner's Sons, 1953), I, 346.

⁴⁰Tarbell, History of Standard Oil, 1904, II, 4.

⁴¹Chapman, "Haupt," IV-4, pp. 23-24.

of agents to fan out quietly along the true route to purchase or lease a right of way, communicating with these men through a secret cipher.⁴² On the advice of the company's counsel, Sherman, Haupt did not register any of the Tide Water's deeds until Standard had completed purchasing its "dead line" to keep the real direction of the pipe secret.⁴³ Haupt organized a schedule for his purchasing agents. They would always start acquiring a right of way through a town on Monday, thus having six days to complete the job. By the time the residents went to church on Sunday and stood around gossiping afterwards, it was too late for them to raise the price of their leases.⁴⁴

Haupt himself took to the field that winter, bargaining with farmers for leases. Later in life he liked to talk about the time he arrived at a farm at nightfall and after asking permission to sleep on the property, the wife pulled the tablecloth off the dining room table and motioned him to climb up and make himself comfortable. At another farm the only available sleeping quarters besides the bare ground were two boards on top of saw horses, which Haupt referred to as sleeping "on the soft side of a plank."⁴⁵

⁴²Allan Nevins, John D. Rockefeller: The Heroic Age of American Enterprise (New York: Charles Scribner's Sons, 1941), I, 577.

⁴³Destler, Roger Sherman, p. 77.

⁴⁴Chapman, "Haupt," IV-4, p. 24.

⁴⁵Mrs. Susan Haupt Adamson to author, August 10, 1968.

Despite the rapid progress made in the field, there was still the problem of crossing Standard's "dead line," which was rapidly nearing completion. After searching through mounds of musty legal titles, counsel for the company found an old creek bed through the line, which was still owned by the state, the farmers on both sides possessing title only to the banks. The Tide Water purchased the bed and Standard's line was pierced.⁴⁶ There was still the problem of crossing railroads, and when the Tide Water tried to cross the Northern Central, owned by the Pennsylvania Railroad, through a culvert laid under the tracks, the railroad sent a section gang out before daylight to rip out the pipe. But the Tide Water secured an injunction, and after a delay of several days was permitted to relay the pipe, which ran through the culvert as late as the 1950's.⁴⁷

Haupt completed the acquisition of the right of way by January 1879, much to the delight of the company managers, who were ready to start construction. Orders had been let for the pipe in December and arrangements were made for stringing the telegraphs.⁴⁸ Haupt also revised his original

⁴⁶Nevins, John D. Rockefeller, I, 577; Williamson and Daum, American Petroleum Industry, p. 441.

⁴⁷Nevins, Study in Power: John D. Rockefeller, I, 346; Johnson, Development of Petroleum Pipelines, p. 75.

⁴⁸Derrick's Hand-Book of Petroleum, II, 291.

plans for the mechanics of the pipeline, his new blueprints showing only two pumping stations for the 109 miles instead of one every fifteen miles as he had originally proposed. The two pumps were designed to raise the oil to a height of 1,900 feet at a point thirty-one miles east of Coryville, Pennsylvania, from where it descended to Williamsport by gravity.⁴⁹ Each of the two pumping stations contained \$21,000 worth of machinery specially designed by the Holly Water Works, with each of the pumps containing three pistons delicately timed so that pressure inside the pipes remained almost constant. The pumps were run by steam and required no attention except the firing of the boiler.⁵⁰

The Tide Water started laying pipe on February 22, 1879, when the first thirty-four sections of the cumbersome 340-pound pipes were laid in almost a straight line from Coryville towards Williamsport. The construction was continually beset by all sorts of problems, particularly the deliberate delay of the railroads in shipping necessary supplies. The construction crews also faced natural disasters, notably a five-foot snowfall in which they were forced to work to meet the deadline required in a lease for

⁴⁹Williamson and Daum, American Petroleum Industry, pp. 443-444.

⁵⁰Ibid.; Tarbell, History of Standard Oil, 1904, II, 5.

laying the pipe. To get the job done on time, the crews had to tear up pipe already laid on adjoining land. When the snow thawed, the crews were forced to work in knee-deep mud cutting new roads to haul the pipe to the construction sites.⁵¹

Despite the obstacles, the construction moved along at a fast clip of two miles per day, mainly because the pipe was not buried except where it crossed cultivated fields. Finally, on May 22, the line was declared completed and ready for its first test.⁵² At Coryville almost half a million barrels of oil, gathered by the Equitable Pipeline Company which had been purchased by the Tide Water on April 1, were stored in tanks awaiting shipment through the pipe.⁵³

On May 28 a large crowd gathered at the pumping station in Coryville to watch the first oil enter the pipe and to lay wagers on whether it would ever come out of the other end of "Benson's Folly," as the pipeline was known to the skeptics.⁵⁴ Late in the afternoon the ponderous eighty

⁵¹Williamson and Daum, American Petroleum Industry, pp. 441-444; Buente, Autobiography of an Oil Company, pp. 20-22.

⁵²Destler, Roger Sherman, p. 76.

⁵³Williamson and Daum, American Petroleum Industry, p. 443; Johnson, Development of Petroleum Pipelines, p. 74.

⁵⁴Williamson and Daum, American Petroleum Industry, p. 444.

horsepower pumps were started and the first oil started on its journey, moving slowly at about one-half a mile per hour. Seven days later another crowd began to gather in Williamsport to welcome the first oil. They were not disappointed, for at about 7:00 P.M. the loud hollow sound of air being pushed before the oil began to fill the air, followed by a trickle of oil and then a steady stream. Soon the big pipe was gushing out 250 barrels an hour and people began running up to the tanks and filling bottles with oil as souvenirs of the moment.⁵⁵ Haupt undoubtedly was there, beaming with delight. He could gloat that contrary to his detractors, he had designed and helped construct the world's first long-distance crude oil pipeline that would shortly revolutionize the transportation of oil.⁵⁶ The day of monopoly of the oil trade by the railroads was over.

The Tide Water did not prove to be the panacea the independent producers expected. Although the cost of shipping oil to the seaboard via the pipeline and the Reading Railroad was only thirty cents a barrel, the Tide Water was

⁵⁵Johnson, Development of Petroleum Pipelines, p. 75; Chapman, "Haupt," IV-4, p. 27.

⁵⁶Derrick's Hand-Book of Petroleum, II, 298, recorded what was probably the understatement of the whole project when it reported, "the success of the line is said to be of importance in demonstrating the feasibility of forcing oil long distances through pipes, . . ."

not the immediate financial success Haupt had predicted.⁵⁷ As soon as the oil started flowing through the pipe, Standard Oil and the railroads started a rate war, shipping oil to the seaboard for as low as fifteen and twenty cents a barrel. Standard's gathering lines in the Oil Region cut their rates to five cents a barrel, far below the costs of operation.⁵⁸ The Tide Water also had additional expenses incurred in burying the line; in 1880 the heat in the summer expanded the pipe and caused it to snake as much as fifteen feet out of line, knocking down trees and fences.⁵⁹ Finally, Tide Water capitulated and entered into an agreement with Rockefeller in January 1880 that apportioned the oil traffic between the common carriers.⁶⁰ Three years later Standard bought out the Reading's interest in the Tide Water and established a formal oil-traffic pool between the railroads, Standard pipelines, and the Tide Water, with the latter receiving 18.5 percent of the business.⁶¹

⁵⁷Williamson and Daum, American Petroleum Industry, p. 445.

⁵⁸Ibid., p. 446; Charles A. Whiteshot, The Oil-Well Driller: A History of the World's Greatest Enterprise, the Oil Industry (Mannington, W. Va.: Charles Austin Whiteshot, 1905), p. 683.

⁵⁹Nevins, John D. Rockefeller, p. 578.

⁶⁰Williamson and Daum, American Petroleum Industry, p. 447.

⁶¹Derrick's Hand-Book of Petroleum, II, 387-393; Destler, Roger Sherman, p. 81.

When Haupt was not actively engaged with the Tide Water project, he was either trying to make a profit from Mt. Lake in the summers or working as a consulting engineer out of his home at 328 Walnut Street in Philadelphia. He had to travel between Philadelphia, New York and elsewhere, investigating the feasibility of various devices and making formal reports on their technical aspects. In some cases Haupt invested in the development of the inventions, and without exception he realized nothing but financial loss. Haupt tended to invest in a new idea solely on its technical merit, ignoring the financial condition of the companies. As a result, he became involved with several "paper" corporations that not only cost him his consultation fee, but probably some of his own money as well.

One of Haupt's first ventures was with the New York Hydrogen Company, which was experimenting with the development of an anti-corrosive process for iron and steel. The process under test was invented by Joseph P. Gill, and in 1879 Haupt thought the tests looked so promising that he purchased a one-fifth interest in any patents Gill might receive as well as some stock in the corporation.⁶² Haupt was named as consulting engineer for the firm and for a short while in 1880 was president. However, he took no active

⁶²Lewis M. Haupt to William H. Grenelle, President U.S. Hydrogen Company, the parent company of New York Hydrogen Company, September 1, 1883, Haupt Letterbook, 1863-1884, p. 376.

interest either in its management or the development of the process.⁶³

The tests continued for several years, and by 1883 it was rumored that the process was a genuine success. Thereupon a group of investors sought to gain control of the firm before the news became common knowledge. A long wrangle ensued between the stockholders of the company and the group attempting to assume control that ended with a suit charging mismanagement by the president and the release of the news that the process was indeed a partial success but that the treated metals did not resist acids.⁶⁴ When this news broke, the value of the company's stock tumbled drastically, the value of Gill's patents were reduced to nothing, and Haupt was left with a pocketful of worthless securities.⁶⁵

In 1879 Haupt also became interested in the use of compressed air for streetcar motors, an idea which occupied

⁶³Communication from General Herman Haupt in Reference to the Present Condition and Prospects of the Hydrogen Company of New York, Organized Under License and Agreement with the Hydrogen Company of the United States, April 19, 1880, to the President, Trustees and Stockholders of the Hydrogen Company of New York, n.d. (probably 1884), Haupt Papers, Box 19.

⁶⁴Lewis M. Haupt to Herman Haupt, November 30, 1883, Haupt Letterbook, 1863-1884, p. 472; Lewis M. Haupt to Herman Haupt, November 30, 1883, Haupt Letterbook, 1863-1884, p. 495.

⁶⁵Lewis M. Haupt to Herman Haupt, November 30, 1883, Haupt Letterbook, 1863-1884, p. 495.

his attention for almost two decades. In that year he was asked to examine and make a report on a new compressed air motor invented by Robert Hardie, a Scotch engineer, and constructed by the Pneumatic Tramway Company. This company built five motors in 1878 and arranged with the Second Avenue Railroad in New York City to run their cars in daily traffic to test their performance and reliability. Haupt was asked to view the operation and estimate the costs of conversion to compressed air by existing streetcar companies and the costs of constructing new systems run exclusively by compressed air.⁶⁶

Haupt had investigated the manufacture and uses of compressed air while working on his rock drill and at that time had concluded that it was unsuitable. But in his report issued February 20, 1879, he waxed enthusiastic over the possibilities offered by Hardie's motor for urban transportation. Haupt derived his favorable impression from examining the test plant, constructed in Harlem, consisting of a steam driven sixty-six horsepower compressor capable of charging the tanks on a street car with 160

⁶⁶Herman Haupt, Street Railway Motors: With Descriptions and Cost of Plants and Operation of the Various Systems in Use or proposed for Motive Power on Street Railways (Philadelphia: Henry Carey Baird & Co., 1893), p. 61. Despite the title, Haupt wrote this book as a piece of promotional literature in behalf of compressed air motors. Out of a total of 165 pages dealing with 11 different types of motors, compressed air occupies 73 full pages.

cubic feet of air at a pressure of 350 pounds per square inch in just seven minutes. On this charge a car was able to run its 7.1-mile route with stops and starts in traffic and return with about one-third of the charge still remaining in the tanks. In testing, cars were run almost ten miles and still had enough air left to move. An added feature of the compressed air motors was that while running downhill the air pressure acted as a retardant decreasing wear on the brakes, while the action of the motors actually increased the air pressure in the tanks at a rate of seven pounds per four-tenths of a mile.⁶⁷

The tests were held for a period of several months with no problems other than those normally found in a prototype, and Haupt calculated from this trial that the overall cost per passenger per trip, including general expenses and a six percent dividend, amounted to 2.57 cents, while for horse cars the overall cost was 4.55. He concluded from these figures that if there was a very small rise in the number of passengers, the road could make a satisfactory profit while charging only 2.5 cents per ticket.⁶⁸

Despite the projected savings resulting from the use of compressed air, the streetcar companies refused to consider adoption of the idea because, as Haupt stated

⁶⁷Herman Haupt, "Compressed Air for Street-Cars," The Engineering Magazine, III (August, 1892), 618-619.

⁶⁸Ibid., p. 621.

later, "public opinion was not sufficiently educated to regard this improvement with favor. Absurd as the objection then made may now appear, presidents of horse rail road companies declared. . . . that the system could not be used without stuffing the skins of dead horses and running them on a low truck in front."⁶⁹ But this was not the only reason for the failure of the system. A dummy company had been formed by men without capital to manufacture and sell the motors. These men capitalized the company at \$1,000,000 and appropriated all the stocks to themselves without payment, an illegal transaction. To evade the illegalities, the patents on the motors were given a value of \$1,000,000 and purchased from Hardie for a stock consideration in the company. The managers then hypothecated the patents for loans they were unable to pay, and when the company folded it also lost the patents.⁷⁰

It is not known whether Haupt invested in this company, but he may have been involved in a small way, for when the compressed air company was reorganized in the 1890's, Haupt owned some stock. He may have been involved in the patent transactions, for during 1879 he experimented with an improved compressed air motor on which he received a patent in conjunction with George H. Reynolds, a New York

⁶⁹New York Sun, March 28, 1897; Haupt, Street Railway Motors, pp. 107-108.

⁷⁰Haupt, Street Railway Motors, pp. 108-111.

City engineer, on December 23, 1879.⁷¹ Haupt never acknowledged any royalties from this patent, nor is there any evidence that the motor was actually tested. His reports confined themselves strictly to an analysis of the Hardie motor.

During 1879 Haupt also examined a unique system of steam heating developed by the Holly Steam Combination Company of Lockport, New York, the same firm that designed the pumping apparatus on the Tide Water Pipeline. Haupt spent eight days in Lockport examining the plans for the system devised by the company's engineer, Birdsill Holly.⁷² Holly proposed to abolish the concept that an individual house have its own heating system and substitute in its place a neighborhood boiler room providing steam heat through underground mains to all the houses much as natural gas was provided. A single steam station would be sufficient to heat an area of one square mile, and the inhabitants of the houses would be charged only for the amount of steam consumed, indicated by a meter arrangement. The advantages of the system were numerous, for the problems of cellar boiler

⁷¹Annual Report of the Commissioner of Patents for the Year 1879 (Washington, D.C.: Government Printing Office, 1880), p. 156.

⁷²Herman Haupt, Report Upon the System of the Holly Steam Combination Company Limited, of Lockport, N. Y., for the Introduction of the District System of Steam Heating for Cities and Villages (Lockport, N.Y.: Union Printing and Publishing Company, 1879), p. 11.

explosions, ash disposal, kindling fires, and drafty houses would be eliminated. Moreover, houses that already possessed steam heat would require no alterations, merely the elimination of the boiler, and the cost of operation of the larger boilers would be lower, enabling the company to charge lower rates.⁷³

Haupt was enthusiastic over the system and made calculations to determine the size of the boilers, the resistance of long pipes to fluids, and the comparative costs of the central system against individual furnaces.⁷⁴ Holly had been undecided on whether to use hot water or steam, but Haupt calculated that the use of steam was more practical from the standpoint of efficiency and cost and using the steam a house could be heated for 200 days at a cost of \$29.12. When the same house was heated by its own individual furnace, the cost rose to \$110.00. Haupt estimated

⁷³Ibid., pp. 12-13.

⁷⁴The resistance of pipes to steam or hot water would have a very great effect upon the efficiency and economy of the whole scheme. Haupt was able to find only one published table giving resistances, but the formula for deriving this table omitted the important factor of the density of the fluid. Thus, Haupt derived his own general formula for resistance of pipes incorporating density and found that the discharge of elastic fluids was equal to the discharge of water under the same conditions, multiplied by the square root of the density of the fluid at atmospheric pressure. This was probably the first attempt to calculate with accuracy the effect of density upon transmission through pipes. Ibid., pp. 25-32; Chapman, "Haupt," IV-4, p. 40.

that a single steam plant heating one square mile of an urban area could earn sixty-six percent of its capital investment after maintenance and operating expenses were deducted.⁷⁵

The system of central steam heat had other advantages which attracted Haupt, one of them being the invention of the steam stove. The stove had a compartmentalized top which allowed food to be cooked without using pots or pans, merely by dumping it into the compartments. Scouring the stove after use was found to take fourteen minutes when Haupt tested a model in February 1879.⁷⁶

Haupt concluded his report by looking to the future and predicting that "when tenement houses, those hot-beds of vice, crime, and pestilence, shall be abandoned, and their unfortunate occupants removed to healthy suburban localities, . . . where they can be brought to their work and returned to their homes by compressed air motors . . .; when three meals can be cooked and apartments warmed at a nominal cost by the Holly System, then a stride will be taken in the amelioration of the condition of the working

⁷⁵Haupt, Report Upon Holly Steam Combination, pp. 55-57, 65.

⁷⁶Haupt recommended that the stove be redesigned and made round so that the compartments for cooking would have no corners and would cut the cleaning time to five minutes. Ibid., pp. 75-78.

classes, . . ."77 Haupt was realistic enough to realize that "I may not live to see the bright dreams of the future realized, but if capitalists will refrain from excessive charges, humanity will reap large benefits from these inventions."78 Unfortunately, nobody reaped large benefits from the system for it was never introduced, probably because capitalists could not be induced to fund the project, despite the fact that it was a promising concept.

There is no evidence that Haupt invested in the Holly system. This was fortunate, for less than a year later he entered into what was undoubtedly the most visionary and unpromising scheme of his career. By 1880 Haupt had carried the burden of paying the taxes on the Chambers property for eleven years, trying desperately to make the resort at Mt. Lake at least pay its expenses, but with little luck. He finally concluded in 1880 that the hilly wooded lands were ideal for raising goats and as with everything else Haupt did, he entered the project head first with great enthusiasm. On February 2, 1880, he incorporated the Virginia Angora Company with a large paper capitalization, with himself as president and his sons

⁷⁷Ibid., pp. 78-79; Haupt anticipated the exodus to the suburbs a full sixty years before it occurred and anticipated one of the biggest problems of the suburbs, transportation.

⁷⁸Ibid., p. 79.

Lewis and Charles Edgar on the board of directors.⁷⁹ As Haupt later told the story to his grandson, Herman Haupt Chapman, he found a man with several herds of goats, examined them, paid for them, and later found out that the man did not own the goats. With his aversion to lawsuits, Haupt did not sue to recover his money and wrote off the entire loss as the Virginia Angora Company slid into obscurity.⁸⁰

Haupt's flight of fancy did not occupy all his time early in 1880, however, for he again dusted off his plans for the improvement of the Ohio River and appealed to Congress for help. His interest in the Ohio River was awakened in December 1879, when at President Hayes' request Haupt testified before the Ohio River Commission in Washington concerning his plans for improving navigation. His

⁷⁹Charter for the Virginia Angora Company, February 2, 1880, Haupt Papers, Box 20; Haupt's sons evidently were not too excited about the project for when Haupt sent out a notice for the first board of directors meeting on March 1, 1880, everyone excused themselves from attendance and sent substitutes. Notice of Board of Directors Meeting, March 1, 1880, Haupt Papers, Box 7.

⁸⁰Chapman, "Haupt," IV-5, p. 22; Chapman does not state how much money Haupt lost in this fiasco, but it was probably not too much. If sheep prices can be assumed as indicative of goat prices, then in 1870 the price per head of sheep was estimated by Haupt to be between \$1.50 and \$2.50 at Mt. Lake. Haupt, Co-Operative Colonization, p. 13; in 1880, the average value per head of stock sheep in the United States was only \$2.18, so if Haupt purchased 1,000 head of goats and the prices were about the same, then he lost about \$2,200. Historical Statistics of the United States, Colonial Times to 1957, p. 290.

testimony before this body drew criticism from proponents of other improvement schemes, particularly its projected cost.⁸¹

Haupt returned to Philadelphia and made some revisions in his original plan of constricting the channel of the river to maintain a six-foot water level during the dry season. His chief improvement was to do away with the need for damming up tributary rivers as slackwaters. He designed a device that could be sunk in the Ohio which would automatically raise up when the speed of the current increased and hold the water back, creating slackwaters in the Ohio itself. This innovation would not hinder navigation as the bottom of the steamers would slide over it. Haupt received his first patent on the slackwater device on March 2, 1880, and another patent on a refinement on June 8, 1880.⁸²

On February 23, 1880, Haupt rewrote his plans incorporating his new device and with the sponsorship of the Pittsburgh Chamber of Commerce he sent them to Congressman

⁸¹U.S. Congress, House, Plans for the Improvement of the Ohio River. Petition of Herman Haupt and the Pittsburgh Chamber of Commerce, Praying for An Examination of certain plans for River Improvement, 46th Cong., 2d Sess., 1880, Misc. Doc. No. 33, pp. 1-2, hereinafter cited as Plans for Improvement of Ohio River.

⁸²Ibid., p. 2; Annual Report of the Commissioner of Patents for the Year 1880 (Washington, D.C.: Government Printing Office, 1881), p. 89; A copy of the March 2, 1880, patent is in Haupt Papers, Box 19.

J. H. Reagan, the chairman of the Committee on Commerce in the House, and asked that they be considered for use by the Corps of Army Engineers. His plans were ordered printed and were also considered by the Senate Committee on Commerce, but his \$20,000,000 proposal was not accepted. Haupt again filed his plans away for future reference, but he never returned to them.⁸³

Haupt turned from river improvements back to urban railway problems and investigated one of the most novel designs of an elevated railway ever presented. Joseph V. Meigs, of Boston, invented a system that consisted of a single steel pole with rails attached a short distance away from each side near the top. The cars, which operated over this line supported by a single row of poles, had wheels angled toward the center at the bottom with flanges that hooked on the inside of the rails, giving stability and support.⁸⁴

A short section of line was constructed in Boston under the direction of Benjamin F. Butler, who had worked on the Seaboard Pipeline with Haupt, and he asked Haupt to come up to Boston and appraise the feasibility of the novel

⁸³Plans for Improvement of Ohio River, passim;
Chapman, "Haupt," IV-4, pp. 44-47.

⁸⁴Reports of Herman Haupt and James L. Meigs, Consulting Engineers on the Meigs Elevated Railroad, and Description of the Same by the Inventor (Boston: Addison C. Getchell, Printer, 1881), passim.

concept. Haupt's report was generally favorable but exhibited doubt about the practicality of the project without further experimentation. This was one project in which Haupt definitely did not invest and it is fortunate that he did not, for it never came into commercial use, although throughout the 1880's it received a great deal of publicity.⁸⁵

By the beginning of the decade of the 1880's Haupt's financial position had improved over what it had been in the late 1860's, but he was still below the break-even point. None of his postwar investments was profitable, and the salaries he received in the various jobs he held were probably not as high as he had received from the Pennsylvania in the 1850's. In fact, he never collected any money for his survey work on the Shenandoah Valley Railroad while chief engineer.⁸⁶ What money he had made was unprofitably invested, and in 1880 he still had suits pending

⁸⁵Ibid.; Joseph V. Meigs wrote a book extolling the virtues of his unique innovation, The Meigs Railway. The Reason For Its Departure From The Ordinary Practice. Its Departures, and How and Why a Safe Railway is Possible (Boston: C. H. Whiting, 1887), and the system received a large newspaper and magazine coverage because of its strange appearance, but only a test plant was ever constructed.

⁸⁶This is one time Haupt brought suit to recover lost money, but he waited until 1884 to do so, some thirteen years after he worked for the line, and there is no evidence that Haupt received his back salary. Lewis Haupt to A. W. McDonald, a Berryville, Virginia, Attorney, December 20, 1884, Haupt Letterbook, 1863-1884, p. 790.

from the Hoosac. Also, he was in debt to the Old Dominion Granite Quarry, he had spent \$10,000 trying to set Jacob up in business, Mt. Lake was costing him several thousand dollars per year plus taxes, and he never received any remuneration from his patents. So when an offer came in 1881 tendering the position of general manager of the Northern Pacific Railroad with a very generous salary, Haupt accepted without hesitation.⁸⁷ Although he was sixty-four years old, he felt that he was far from the end of his career, and with a steady salary in the rapidly expanding American economy of the early 1880's and headquartered in the West, a whole new vista opened before him.

⁸⁷Frederick Billings, President of the Northern Pacific Railroad to Haupt, March 29, 1881, Haupt Papers, Box 7.

CHAPTER XVI

THE NORTHWEST

Haupt had never been in the Northwest, and this fact, coupled with his age, made him an unlikely choice for general manager of the Northern Pacific. But once again his old friends of three decades before on the Pennsylvania Railroad came to his aid.

The Pennsylvania never dominated the affairs of the Northern Pacific as it had the Union Pacific, but many officials of the Pennsylvania held important positions on the Northern Pacific.¹ Before Haupt arrived in St. Paul, its board of directors counted such men as J. Edgar Thomson, Samuel M. Felton, and George W. Cass, who was also president of the road. In 1881 the Pennsylvania was represented by directors Joseph D. Potts, ex-general manager of the Pennsylvania-controlled Philadelphia and Erie in the 1860's and ex-president of the Empire Transportation Company, purchased by the Pennsylvania in 1877, and Charles B. Wright, a personal friend of Haupt's, who had a heavy financial

¹Grodinsky, Transcontinental Railway Strategy, p. 15.

interest in the Pennsylvania.² The road had also hired Haupt's former subordinate on the Military Railroads, Adna Anderson, as chief engineer in 1880.³

It was either Joseph D. Potts or Adna Anderson who suggested Haupt for the job of general manager of the eastern division.⁴ The president, Frederick Billings, tendered the job to Haupt late in March 1881. Haupt accepted it only after securing generous terms. He demanded a yearly salary of \$15,000 payable monthly and a clause in his contract stipulating that "if from any cause, other than voluntary retirement, or any disability rendering me incapable of performing my duties, my connection with the company should be severed at an earlier period than five years, one half of the amount shall be paid . . . as liquidated salary for the balance of the time, . . ." Billings assented to these terms on March 29, and the board of directors

²James Blaine Hedges, Henry Villard and the Railways of the Northwest (New Haven, Conn.: Yale University Press, 1930), p. 71; Stuart Daggett, Railroad Reorganization (Boston: Riverside Press, 1908), p. 270.

³Eugene V. Smalley (ed.), Northern Pacific Railroad, Book of Reference, for the Use of the Directors and Officers of the Company (New York: E. Wells Sackett & Rankin, Printers, 1883), p. 224.

⁴Frederick Billings wrote Potts as early as January 1880, stating "we should also have someone at St. Paul as Vice President or in some other capacity who has sufficient scope to prevent so many questions of detail finding their way to the General Office." Billings to Potts, January 13, 1880, cited in Cochran, Railroad Leaders, p. 254.

confirmed his decision on April 21. Haupt assumed his new duties as the highest ranking official of the railroad headquartered in the West on April 1, 1881.⁵

When Haupt arrived, the Northern Pacific was not well run or financially stable. The road was chartered in 1864 to run between Lake Superior and the Northwest, but even with a land grant of forty million acres from Congress it was always a financial cripple.⁶ Its proposed line was longer than that of any other transcontinental, running through some of the bleakest, most unsettled land in the United States; it lacked both important terminals and a local trade and was far enough north to experience the brunt of the northern plains' winters.⁷ Nevertheless, after Jay Cooke's banking house assumed the burden of marketing the road's securities, at a handsome profit to Cooke, rails were started west in February 1871. Over 500 miles were completed to Bismarck, in the Dakota Territory, before construction was stopped by the failure of Cooke, precipitating the depression of 1873. Although the line managed to struggle along for another year, it finally went

⁵Conditions are cited in letter from Billings to Haupt, March 29, 1881, Haupt Papers, Box 7; Railway World, April 9, 1881, p. 344; Smalley, Book of Reference, Northern Pacific, pp. 218-219.

⁶Stover, American Railroads, p. 76.

⁷Robert E. Riegel, The Story of the Western Railroads (New York: The Macmillan Company, 1926), pp. 120-121.

into receivership in 1874. Cass was named receiver by the courts until the line was reorganized in October 1875 under the presidency of Charles B. Wright.⁸

During the depression, the new organization was unable to raise money to carry on construction, leaving the road truncated until Henry Villard, who possessed a monopoly over transportation in the Northwest, assumed control of the line.⁹ Villard had been unable to obtain guarantees from the Northern Pacific that it would link up with his western properties and not parallel them to the Pacific Coast and to forestall this eventuality he appeal to New York investors to contribute \$8,000,000 on faith alone, creating the "Blind Pool" which he used to purchase control of the Northern Pacific.¹⁰ On June 8, 1881, Billings resigned as president and Villard assumed the duties three months later.¹¹

When Villard took over the line, he had at his disposal \$34,000,000 from the sale of first mortgage bonds to hasten completion of the road. But the money would become available only after the land grants were awarded, after

⁸Stover, American Railroads, pp. 76-77; Daggett, Railroad Reorganization, p. 270.

⁹Hedges, Henry Villard, p. 81.

¹⁰Stover, American Railroads, p. 77.

¹¹Memoirs of Henry Villard: Journalist and Financier 1835-1900 (New York: Houghton, Mifflin and Company, 1904), II, 300.

twenty-five mile sections of the line had been completed and accepted by the United States government.¹² Both Presidents Garfield and Arthur refused to appoint an inspection commission because bills forfeiting the road's land grant were pending before Congress. Thus Villard was forced to loan personal funds and money raised on his Oregon interests to the Northern Pacific to meet the heavy construction costs of between two and four million dollars per month.¹³ This scarcity of capital put Haupt under constant pressure from the home office in New York to pare expenses and postpone maintenance until the line could be completed and support the expense.

Haupt arrived in St. Paul with his wife and five children in April 1881 and rented a three-story, brick Victorian house at the corner of Oak and Walnut Streets.¹⁴ He remained in this house less than a year, when he purchased an imposing two-story house, which still stands at 312 Summitt Avenue.¹⁵

The situation existing on the Northern Pacific when Haupt assumed his new duties was reminiscent of the

¹²Ibid., pp. 300-301.

¹³Ibid., p. 301; Grodinsky, Transcontinental Railway Strategy, p. 204.

¹⁴Photograph in Adamson Collection.

¹⁵Chapman, "Haupt," no chapter number, p. 3, hereinafter cited as Chapman, "Haupt," Northern Pacific.

Pennsylvania Railroad in 1851. Haupt found that his predecessors had never outlined the duties and responsibilities of the operating departments. As a result, "several of the heads of departments would hold no personal or official intercourse with each other, and harmony could not be secured until several removals and substitutions had been made."¹⁶ To bring some order out of the confusion and to keep personal recriminations to a minimum, Haupt asked all department heads to write out explicitly what they conceived their responsibilities to be and send the statement and the forms and blanks used in their departments to him. Haupt then made personal visits to all the department heads soliciting their suggestions for improvements and gathering additional information.¹⁷

In a short time Haupt drew up a complete plan of organization, listing the chain of command and the responsibilities of company officers, and sent a copy to New York to be approved by the board of directors. Haupt's plan was much more sophisticated than the one he had drawn up for the Pennsylvania Railroad in 1851, and showed the results of his experience on the Military Railroads. Haupt created

¹⁶Herman Haupt, Communication from Herman Haupt, Late General Manager, to the President and Directors of the Northern Pacific Railroad Company (n.p.: no publisher, 1883), p. 3. Haupt had a few copies of this pamphlet printed and distributed to the President and Directors. This copy located in Haupt Papers, Box 19. Hereinafter cited as Haupt, Northern Pacific.

¹⁷Ibid., pp. 3-4.

a "General Staff" headquartered at St. Paul under the direction of the general manager, containing superintendents of transportation; track, bridges and buildings; motive power; express; telegraph; general freight and passenger agents; and a purchasing agent.¹⁸

Next, Haupt divided the road into divisions 200 to 250 miles in length and appointed a division superintendent with his own miniature "General Staff." Haupt described the duties of each position with great care, suggesting the adoption of specific forms and requiring monthly status reports on all activities to be sent to him. To maintain order in this decentralized administrative structure, Haupt insisted that instructions be given to subordinates only through their immediate superiors and forbade employees to report to any managerial personnel other than their own supervisor.¹⁹ Haupt held that "these rules are fundamental; their violation is subversive of discipline, and inevitably causes trouble."²⁰

The board of directors in New York postponed consideration of Haupt's proposed organization, so Haupt sought and received permission from vice president Thomas F. Oakes to put it into effect without the action of the board.²¹

¹⁸Herman Haupt, Organization of the Transportation Department of the Northern Pacific Railroad (St. Paul: H.M. Smith & Co., Printers, 1881), pp. 3-4.

¹⁹Ibid., passim. ²⁰Ibid., p. 14.

²¹Haupt, Northern Pacific, p. 4.

On October 10, 1881, Haupt issued a circular announcing the implementation of the new organization and appointed George W. Cross as superintendent of transportation.²²

The physical condition of the railroad was not much better than its organization. New construction took precedence over maintenance and the result was, as Haupt stated after an examination of the 586 completed miles, ". . . many ties were rotten, rails worn, and constant accidents occurred from breakages and spreading of track; much of the road was without ballast, and miles of it in the spring would be covered with water, . . ."²³ Moreover, the line lacked terminal facilities in St. Paul and Minneapolis.²⁴

Haupt was hindered in what he could do to improve the situation. The season during which maintenance work could be done was only twelve weeks long, sandwiched between the spring thaw and the harvest traffic, but even in that short space of time Haupt was unable to accomplish much because of the priorities given to new construction.²⁵ He had only a limited number of permanent employees with which to operate the road and was refused more because of the drain on the company treasury caused by employing

²²Circular cited in Chapman, "Haup," Northern Pacific, p. 6a. Cross was a former employee of Potts on the old Empire Line.

²³Haupt, Northern Pacific, p. 4.

²⁴Ibid., pp. 10-11. ²⁵Ibid., p. 5.

almost 20,000 construction laborers.²⁶ Haupt did what he could with limited manpower, repairing the worst of the defects, cutting down the speed of the trains by the introduction of speed recorders in the locomotives, and installing switch lights to reduce accidents caused by open switches.²⁷

More maintenance work could have been done had Haupt elected to drive his men as he had done in earlier years, but in the 1880's labor was becoming a potent threat to railroad managers.

The great railroad strikes of 1877 had sobered the management of the lines, and although few concessions were granted to labor, a wary eye was kept on union activities.²⁸ Haupt was conscious of the growing strength of railway employees and in his first official communication he stated his position on labor unions: "it is also recommended that brotherhoods, combinations and unions be avoided. Efforts will be made to secure the beneficial objects proposed in

²⁶Henry Villard, Statement of Mr. Henry Villard to the Stockholders of the Northern Pacific Railroad Company (New York: John C. Rankin, Jr., Printer, 1884), p. 5. Copy located in Engineering Societies Library. Hereinafter referred to as Villard, Statement.

²⁷Haupt, Northern Pacific, p. 5.

²⁸Haupt was very conscious of labor unrest and one of his boasts after leaving the Northern Pacific was that ". . . not a single strike in any of the departments has occurred during my connection with the road." Ibid.

such organization, by substitutes, less liable to be controlled by designing leaders for mischievous purposes."²⁹ On some points Haupt was absolutely inflexible, particularly on what he referred to as "vicious habits," profanity and alcohol. These prohibitions stood wherever Haupt was boss, union or no union.³⁰

Despite Haupt's official attitude on labor problems, which was in accord with the management practices of the day, he tried hard and honestly to settle any grievances brought to his attention by the men under him. Haupt was in an exceptionally difficult position, for the unsettled finances of the company dictated a policy of wage reductions. It fell to Haupt to implement these cuts ordered by the New York office without fomenting a strike.³¹

To keep labor strife at a minimum, Haupt struck out in several directions. He implemented his new organizational plan slowly to prevent disruptions and issued public

²⁹Circular cited in Chapman, "Haupt," Northern Pacific, p. 4.

³⁰Ibid.

³¹President Billings wrote Haupt soon after he became general manager that "salaries should be kept down and employees should wait for the growth and development of the enterprise, . . ." Billings to Haupt, May 6, 1881, cited in Cochran, Railroad Leaders, p. 260; Six months later Haupt averted a strike by engineers seeking higher pay by meeting with their committee and convincing them their salaries were as high as on other roads. Address made by Haupt to engineers on October 27, 1881, cited in Chapman, "Haupt," Northern Pacific, pp. 4-5.

circulars explaining each change and the reasons for it.³² This was one of the few labor policies with which the New York office agreed. Vice president Oakes wrote Haupt, "I am glad to see you appreciate the importance of proceeding slowly in your reforms as it would not do to have a strike on your hands at this time when you need a large force to handle your transportation."³³

Since Haupt had only a stipulated number of employees and was forbidden to hire additional help during the season for repair work, he was unable to maintain facilities in first class condition. When Oakes inspected the completed trackage in the summer of 1882, he censured Haupt for sloppy maintenance. Haupt tried to explain, but Oakes cut him off, stating, "I would rather see the work done than hear excuses for not doing it."³⁴ A few months after the censure, Haupt received orders from Oakes stating "cut down your forces everywhere. I shall not be satisfied with anything but the most radical improvement in all your expenses."³⁵ A month later, all payrolls east of the Missouri River were ordered cut. Under these conditions

³²Haupt, Northern Pacific, p. 5.

³³Thomas F. Oakes to Haupt, September 20, 1881, cited in Cochran, Railroad Leaders, p. 411.

³⁴Haupt, Northern Pacific, p. 6.

³⁵Oakes to Haupt, November 9, 1882, cited in Cochran, Railroad Leaders, p. 416.

Haupt found it difficult to maintain friendly relations with the employees.³⁶

One of Haupt's stated aims when he became general manager was to substitute company services for those that could be provided by a union, and to fulfill this promise he drew up the plans for the Northern Pacific Beneficial Association. The idea of a beneficial organization did not originate with Haupt, nor was it even a new idea, for the Baltimore & Ohio Railroad had operated one for several years. Haupt took their plans and changed them to accord with the realities of the Northern Pacific's situation, principally in reducing the cost of the association to the company to a bare minimum.³⁷

On November 28, 1881, Haupt circulated a letter among his employees giving the outlines of the proposed medical and hospital benefits of the association and the probable cost per employee for membership. Haupt asked for the signatures of all who were in favor of its creation, as well as those who disapproved.³⁸ Evidently a little pressure was exerted on the employees, for the vote was declared unanimous in favor of the association. Thereupon

³⁶Oakes to Haupt, December 28, 1882, cited in ibid., p. 418.

³⁷Haupt, Northern Pacific, p. 12.

³⁸Copy of letter cited in Chapman, "Haupt," Northern Pacific, p. 11.

the signed circular, along with the proposed plans, were sent to the board of directors for approval.³⁹

The board did not act immediately, but in early June 1882, Haupt announced elections for the proposed board of managers for the association. The board consisted of ten men, with Haupt an ex officio member, six elected by the employees of the transportation, road and machinery departments, and four appointed by Haupt. On July 15, Haupt issued circular number 37 giving the results of the election and his appointments, and the following month the first formal meeting was held.⁴⁰ At this meeting employee assessments were set at 50 cents per month for employees earning under \$100 a month, \$1.00 per month for those receiving between \$100 and \$200, and \$2.00 per month for those receiving over \$200. The management of the company also agreed to be assessed \$2.00 per month, although they were not allowed to avail themselves of the services offered by the association.⁴¹

For their money the employees and their families

³⁹Chapman, "Haupt," Northern Pacific, p. 12.

⁴⁰"History of the Northern Pacific Beneficial Association," probably written by Mr. H. B. Smith, president of the association from 1914 to 1941, copy located in Haupt Papers, Box 17, p. 5, hereinafter cited as Smith, "Beneficial Association."

⁴¹Herman Haupt, "Northern Pacific Beneficial Association," circular 37, August 19, 1882, Haupt Papers, Box 17.

were furnished a hospital established on each division, staffed by doctors who were available in case of either sickness or accidents. Moreover, if an employee was unable to work for a protracted length of time he received 50 cents a day for the first six months and reduced rates for a longer period, in addition to his medical care. Any man already employed, under fifty years of age, was eligible to join, while the age limit for new employees was set at forty-five. All officers of the association agreed to work without pay to keep overhead costs low.⁴² The company's contribution was limited to a promise of \$6,000 per year if the association was unable to meet their obligations from employee assessments and if the association members would release the company from all liability for loss of life or personal injury. Oakes further agreed to erect a hospital at Brainerd and other buildings "as may be required from time to time . . .," to allow the local treasurer of the company to oversee the association's finances without charge, and to provide free stationery.⁴³ After the establishment of the permanent organization, Haupt was elected president of the board, and Anna Cecilia's brother-in-law, Henry Knauff, was elected secretary.⁴⁴

⁴²Ibid.

⁴³Oakes to Haupt, August 22, 1882, cited in Smith, "Beneficial Association," p. 6.

⁴⁴Smith, "Beneficial Association," p. 7.

The association was an immediate success, collecting over \$41,000 the first year of operation and expending over \$20,000 on medical services. It weathered all the later financial vicissitudes of the company and as late as 1952 was still going strong, with an income in excess of \$2,000,000 and disbursements of about the same amount. The original charter drawn up by Haupt has been modified but remains essentially intact, and the company has increased its donation to \$75,000 per year.⁴⁵

Labor problems did not occupy Haupt's time exclusively. Snow blockades throughout the winter constantly hampered operations and were costly to remove, the road lacked a good water supply for the locomotives, and the cost of transporting coal for the locomotives from the east was prohibitive, particularly when the Lakes were icebound during the winter.⁴⁶ Haupt tried imaginative solutions to all the problems with varying degrees of success but was hindered by a lack of money for experimentation.

To prevent the traffic tieups every winter due to drifting snow, Haupt proposed the novel expedient of creating tree plantations along the route to act as snow fences. He determined that if trees were planted over a period of five years, on the two worst divisions, the

⁴⁵Ibid., pp. 2-3; Chapman, "Haupt," *Northern Pacific*, p. 13.

⁴⁶Haupt, Northern Pacific, p. 13.

Dakota and Missouri, the total cost would run about \$84,000. He sent the proposal to New York for the board's approval, stating that the snow removal costs per year amounted to about \$75,000, so the expenditure was cheap in the long run. The board was sufficiently impressed with his proposition to appropriate \$50,000 towards the experiment, and in the spring of 1882 Haupt created the position of superintendent of tree plantations and ordered all transportation employees to cooperate in passing the trees over the road.⁴⁷ Planting was delayed by the death of his first appointee to the position, and Haupt left the road long before the five-year plan was completed.⁴⁸

The lack of water facilities along the road presented one of the thorniest problems Haupt had to face. He tried digging artesian wells, but the water was found to be unsuited for use in the boilers and the plan had to be abandoned. Before Haupt retired, he proposed to the board of directors that they resort to the use of surface reservoirs on the Dakota and Missouri divisions, the two driest divisions on the road. But Haupt had to admit that the water question was still far from being solved.⁴⁹

⁴⁷Ibid., pp. 11-12; Circular cited in Chapman, "Haupt," Northern Pacific, pp. 14-15.

⁴⁸Chapman, "Haupt," Northern Pacific, p. 14. Chapman, who later became a professor of forestry at Yale, remembered seeing the tree plantations in the Dakotas in 1882.

⁴⁹Haupt, Northern Pacific, p. 13.

Haupt had much better luck in obtaining coal and freeing the line from dependence upon eastern roads for its supply during the winter. A large deposit of lignite, a poor grade coal with a high moisture and ash content, was located on the company's land grant near Mandan, in the Dakota Territory. In fact, the ash content was so high that firemen complained that it took one man to feed the fire and another to shovel the ash.⁵⁰ Initially, this was the only known coal deposit near the road, and Haupt began to experiment with the design of a firebox that would burn the poor grade coal economically. He consulted John E. Wootten, designer of a firebox suitable for anthracite,⁵¹ and struck a deal with him to run some tests with the Dakota lignite, with the Northern Pacific paying one-half the costs of testing and agreeing to pay Wootten's expenses if the experiment was a success.⁵² Despite the fact that Wootten was the country's foremost expert on firebox design, the tests were a failure.⁵³

⁵⁰Chapman, "Haupt," Northern Pacific, pp. 8-9; The operation of the lignite mines were under the charge of Harry Hensel, who was the husband of Haupt's niece. Hensel's claim to fame was the invention of a board that held twenty pens which allowed him to sign that many checks at one time when he later became treasurer of the Northern Pacific.

⁵¹Bruce, The Steam Locomotive in America, p. 35.

⁵²Oakes to Haupt, March 6, 1882, cited in Cochran, Railroad Leaders, p. 413.

⁵³Haupt pushed the tests throughout the summer of 1882 under pressure from Oakes, who wrote "your cost of

Under continued pressure from Oakes, Haupt pressed the search for better grade coal deposits and after spending almost \$50,000 on surveys finally located a source in Montana, northwest of Billings. The coal was still lignite, but a better grade known as "sub-bituminous," which was suitable for use on the road.⁵⁴ Haupt organized the Northern Pacific Coal Company and purchased a five-sixths interest for the railroad with the remaining sixth going to the owner of the property who acted as manager. Haupt was president of the company but took no active part in its operation.⁵⁵

The acquisition of the company materially improved the coal situation on the Northern Pacific. Coal was sold at a few cents above cost to the railroad as well as to settlers, creating an added inducement for colonization along the road. Besides the new source of coal, Haupt's new company realized a forty percent profit in its first year of operation, and Haupt predicted that as the demands

fuel per engine mile is I see gradually creeping up." Oakes to Haupt, April 21, 1882, cited in Cochran, Railroad Leaders, p. 414; A satisfactory firebox was not developed until the twentieth century.

⁵⁴Bulletin 647 of the United States Geological Survey cited in Chapman, "Haupt," Northern Pacific, p. 10.

⁵⁵Haupt, Northern Pacific, p. 13.

for coal increased, the profit margin would shoot up.⁵⁶

Haupt was active in other areas of railroad management as well. He made a study of the future terminal requirements of the Northern Pacific in the Twin Cities area and recommended to the board of directors that they make an immediate acquisition of transfer and terminal land in both cities.⁵⁷ Villard acted upon Haupt's suggestion, organized a terminal company, sold \$3,000,000 worth of bonds guaranteed by the Northern Pacific, and purchased the needed property for only \$300,000, providing some badly needed funds for the road.⁵⁸

Perhaps the greatest trial Haupt had to endure as general manager was the transcontinental opening ceremonies early in September 1883. When the route was completed the month before, Haupt was promoted to general manager of the entire road and charged with the responsibility of transporting and supplying the entourage of dignitaries invited

⁵⁶Ibid.; Agents of the railroad were instructed by Haupt to make sure that all settlers along the road had ample supply of fuel and provisions before winter set in. Haupt stated that "this was done chiefly to prevent damaging reports, that would have retarded land sales and settlement." Ibid., p. 15.

⁵⁷Ibid., pp. 10-11.

⁵⁸Memoirs of Henry Villard, II, 306; Haupt also introduced the first refrigerator cars on the line. Within ten months they earned enough profit to refund the cost of replacement. Haupt, Northern Pacific, p. 11.

from the United States and Europe by Villard to witness the driving of the last spike, which, befitting the financial standing of the company, was not gold.⁵⁹ Villard, so the newspapers reported, appropriated \$250,000 to promote the extravaganza and laid the responsibility for running it on Haupt's shoulders.⁶⁰

The guest list for the opening of the Northern Pacific read like the Who's Who of the late nineteenth century. From the United States there were, in addition to President Chester A. Arthur and former president U. S. Grant, ". . . nine governors of states and territories, and four ex-governors; ten United States Senators and three ex-Senators; twenty-six Congressmen and two ex-Congressmen; nine generals of the army, . . . fifty representative journalists; [and] twenty-five eminent railroad men. . . ."⁶¹ Members of Arthur's cabinet were in attendance, including Robert T. Lincoln, Secretary of War. The military procession was headed by Generals Philip Sheridan and Alfred H. Terry, of Civil War fame.⁶² From Europe and England came sociologist Max Weber, representing the city of Berlin;

⁵⁹Memoirs of Henry Villard, II, 310-311.

⁶⁰J. H. Hanson (ed.), Grand Opening of the Northern Pacific Railway: Celebration at St. Paul, Minnesota, the Eastern Terminus, September 3, 1883. Issued by Order of the City of St. Paul (St. Paul: Brown & Treacy, n.d.), p. 14.

⁶¹Ibid., p. 58.

⁶²Memoirs of Henry Villard, II, 310.

historian James Bryce; the British Ambassador to the United States, Sir Lionel Sackville-West; and Dr. Georg Siemens of the Deutsch Bank.⁶³

The problems involved in bringing all these dignitaries together were formidable. Hundreds of miles of the newly opened Northern Pacific were without stations or inhabitants, the roadbed was barely adequate with sharp curves and steep inclines, supplies had to be brought out each day by special trains, and the timetable had to be arranged so that the train from the West Coast would meet the eastern trains on schedule.⁶⁴

Most of the Europeans and the Americans were carried on four special trains from the East Coast, each broken into several sections, and fitted out with private coaches and palace cars. After being feted at cities along the way and particularly in Chicago, the entourage arrived in St. Paul on September 3, where parades in the Twin Cities passed 50,000 people in review. In the evening, a lavish banquet was held in St. Paul before the excursion left for the West.⁶⁵

Haupt preceded the trains in his own private car, the "Yellowstone," and picked up Chief Sitting Bull at the

⁶³Hanson, Grand Opening of the Northern Pacific, p. 42.

⁶⁴Memoirs of Henry Villard, II, 312.

⁶⁵Hanson, Grand Opening of the Northern Pacific, pp. 10-12.

Sioux reservation not far from Mandan, and brought him to Bismarck where he delivered a few remarks at the laying of the cornerstone for the state capitol.⁶⁶ Further along the line, in eastern Montana, a tribe of Crow Indians, two thousand strong, gathered at the track to perform a war dance for the dignitaries, and finally, in western Montana in the waning light of a September evening, the last spike was driven and 1,000 feet of track was laid to show the speed and dexterity of the track gangs. After the formal ceremonies were concluded, the trip was continued to the West Coast. Only a few minor accidents occurred to mar the festivities, the worst being when Villard's own train broke in half ascending a steep grade and the rear section crashed into the following train carrying the British Ambassador. However, there were no injuries and the remainder of the trip was without mishap.⁶⁷

The principal reason for Villard's splashy gala was

⁶⁶Haupt's oversized private car was staffed by a cook and a porter. Once when travelling over an eastern road the car scraped a covered wooden bridge and emerged smoking from the friction. Chapman, "Haupt," *Northern Pacific*, p. 3; Haupt met Sitting Bull as early as 1882 at the Mandan railroad station. The whole Haupt family was along and a picture of the group taken in Fargo is in the Adamson Collection.

⁶⁷Memoirs of Henry Villard, II, 311-312; Villard states that the driving of the last spike took place September 3, but St. Paul was holding its banquet for their guests that evening, so the spike must have been driven at least two days later, since the party stopped at Bismarck on the way.

an attempt to impress some of the visitors, particularly the German bankers, in hopes of inducing them to invest in the road and relieve him of his financial burdens. Money suddenly tightened up for Villard and other businessmen in 1883--an expected large grain harvest did not materialize and investors were cautious. Villard was again forced to meet heavy calls with his own personal resources and those of his Oregon properties. But his position continued to decline, as the stock of the road fell precipitously. He was rapidly approaching an untenable financial position.⁶⁸

While Villard was preoccupied in New York, Haupt remained in the West, organizing new divisions and making a survey of the prospects for local traffic and future earnings of the road. Haupt concluded after the three-week investigation that there were no present sources of revenue and unless settlers could be brought into the area, there would be no sources in the near future.⁶⁹

Haupt returned to St. Paul early in October and found Oakes waiting for him with a letter of censure from Villard. Villard was incensed that Haupt's actions in

⁶⁸Villard, Statement, pp. 21-22; Northern Pacific stock had maintained a stable price between 1881 and 1883, reaching yearly highs of between 51 and 54. But it reached a high in 1884 of only 27 and that was in January. Prices of Railroad Stocks for Thirty-Two Years 1854-1886 (New York: Printed at the Office of the Commercial and Financial Chronicle and Investors Supplement, 1886), pp. 164-165.

⁶⁹Chapman, "Haupt," Northern Pacific, p. 16.

reducing expenses "had not been sufficiently prompt and radical."⁷⁰ Haupt had been ordered by Oakes early in September to cut down on the number of employees on the line, which Haupt did after consultation with his division superintendents. Haupt accompanied his removal order with an explanation of why the men were being fired. For this he was reprimanded by Oakes who felt that the explanations ". . . do not concern our subordinates. Their duty is to obey orders without explanations."⁷¹

On September 29 Oakes ordered Haupt to cut the section gangs on the branch lines down to two men per section and to cut the transportation personnel, but left the latter cut to Haupt's discretion. Haupt made a list of the cuts he considered practical and sent it to Oakes, who approved.⁷²

It was with surprise then, that Haupt received Villard's letter charging him with wasteful expenditures resulting in a high ratio of expenses to receipts. This

⁷⁰Haupt, Northern Pacific, p. 2.

⁷¹Ibid., p. 16; Oakes to Haupt, September 20, 1883, cited in Cochran, Railroad Leaders, pp. 421-422.

⁷²Oakes to Haupt, September 29, 1883, cited in Cochran, Railroad Leaders, p. 422; Haupt, Northern Pacific, p. 16; Villard also blamed Adna Anderson for his financial troubles, accusing Anderson of underestimating construction costs by fourteen million dollars. Anderson also quit. See: Letter of Adna Anderson, Engineer-in-Chief, N.P.R.R. Company, to Henry Villard (New York: Geo. W. Sackett, Printer, 1884), passim.

operating ratio was watched closely on Wall Street by potential investors, who had little else on which to judge the road's management. Thus Villard was blaming the drop in the Northern Pacific stock on Haupt's high operating ratio.⁷³

In truth, Haupt's ratio was not high at all. The ratios for the two years before Haupt assumed control stood at 60.36 and 67.63, with only 586 miles of road in operation. The fiscal year 1882 was Haupt's first, and despite the opening of an additional 211 miles of unproductive line, his ratio fell to 65.80. In 1883, with the addition of another 700 miles of line, his operating ratio rose to only 67.94.⁷⁴ A comparison with the average railroad operating ratio in 1883 is not possible, but in 1885 the national average was 65.18 and five years later stood at 65.80.⁷⁵ Haupt was surprised that his ratio was not higher, for during those years he had to haul construction supplies across the road at cost, which increased his expenses and lowered receipts.⁷⁶

Haupt felt that not only were his expenses in line

⁷³Herman Haupt, Northern Pacific Railroad Company, Explanations in Reference to Change of Management (n.p.: no publisher, 1884), p. 1.

⁷⁴St. Paul Pioneer Press, November 25, 1883.

⁷⁵Calculated from: U.S. Bureau of the Census, Historical Statistics of the United States, pp. 428, 434.

⁷⁶St. Paul Pioneer Press, November 25, 1883.

with the peculiar conditions existing on the road, but that the operating ratio was no criterion of good management. The ratio could be juggled by deferring maintenance, laying off employees, cutting service, and reducing salaries, making it lower and encouraging Wall Street, but also weakening the railroad. Haupt was ready to do these things if ordered; in fact, he stated that "if orders had been given to discharge every man in service, they would have been obeyed; . . ." ⁷⁷ But left some discretion, he preferred to try to maintain the property. Haupt was a little disdainful of Wall Street anyway after his financial trials in the Hoosac and told Villard that "I was not operating the road with special references to effects on Wall Street, but in the interests of the stockholders, for the improvement of the property and the accommodation of the public; . . ." ⁷⁸

When Haupt found that he was working at cross-purposes with the management of the company in New York, he wrote Oakes a letter of resignation on October 20, 1883, effective November 1. ⁷⁹ Oakes accepted Haupt's resignation ten days later and assumed the duties of general manager himself, evidently as a further economy. ⁸⁰

⁷⁷Haupt, Northern Pacific, p. 16.

⁷⁸Haupt, Explanations in Reference to Change of Management, p. 1.

⁷⁹Haupt to Oakes, October 20, 1883, published in Notice of Change of Management by the Northern Pacific (n.p.: no publisher, 1883), Haupt Papers, Box 17.

⁸⁰Oakes to Haupt, October 30, 1883, cited in ibid.

News of Haupt's resignation hit the railway press on November 10 and coupled with rumors of the financial instability of the company further depressed Villard's fortunes. Haupt answered charges of mismanagement through the press, exonerating his record and attacking the shortsighted policy of the Northern Pacific, but his case was soon forgotten as Villard fell from control and the future of the road remained in doubt.⁸¹

Haupt's personal financial situation was not improved by 1883, despite having received a generous salary for over two years. As he had done in the East, he continued to make unprofitable investments in land, hoping for appreciation of the real estate, but he lacked the liquid capital to hold the land until this occurred. Haupt plunged into his first venture immediately upon his arrival in St. Paul, when he invested \$15,000 in the St. Anthony Park Improvement Company. This company proposed to develop a suburb of the city, but unfortunately was never even able to meet the interest on the bonds, which Haupt still had at the time of his death.⁸²

The next investment made by Haupt was not as large,

⁸¹Railway World, November 10, 1883, p. 1163.

⁸²Chapman, "Haupt," IV-6 & 7, p. 23; Will of Herman Haupt, March 29, 1901, in the Office of the Registrar of Wills (United States District Court, Washington, D.C.).

but just as unprofitable. He put \$5,000 into the bonds of a projected electric light plant in the undeveloped town of South Bend, Oregon. It is uncertain what happened to the light plant, but it is known that Haupt lost his whole investment.⁸³

Haupt also bought heavily in property along the route of the Northern Pacific, alone and in conjunction with his children. He and Lewis owned property in Mayville, Jamestown, and Mandan, in what is now North Dakota, and Haupt bought property in Superior, Wisconsin, near the Northern Pacific docks.⁸⁴ It is not clear just how much Haupt invested, but it was in the neighborhood of \$100,000. Part of the money came from his children, part from mortgages on the Mt. Lake property that eventually totaled \$30,000, and part from money he raised personally.⁸⁵ Haupt later admitted, "I sustained heavy losses in the investments. . . . in some cases nearly the whole but I made it good to the children including interest."⁸⁶

While Haupt was working for the Northern Pacific,

⁸³Chapman, "Haupt," IV-6 & 7, p. 23.

⁸⁴List of Land Holdings, Haupt Letterbook, 1863-1884, p. 624; Lewis M. Haupt to Herman Haupt, September 27, 1883, Haupt Letterbook, 1863-1884, p. 397a.

⁸⁵Lewis M. Haupt to () Michels, October 24, 1883, Haupt Letterbook, 1863-1884, p. 439.

⁸⁶Payments made to Children by Check since May 6/81, Haupt Papers, Box 18.

he started distributing sums of money to all his children to keep his personal assets at a minimum, at first to forestall suits in Massachusetts, but later to repay the children for investing unwisely upon his recommendation in western lands. Between May 6, 1881, and October 29, 1885, Haupt divided \$22,183 between his eight surviving children and Anna Cecilia, plus the \$35,000 he received from the sale of his house in St. Paul and all the proceeds received from the sale of his western lands. Haupt continued this practice until his death.⁸⁷

Haupt's interests in the East suffered by his absence. Lewis continued trying to sell Mt. Lake for virtually any price he could get, even offering it to a Menonite sect in Russia.⁸⁸ Haupt was desperate to sell and wrote Lewis, "I would let Mt. Lake go at any price. It is a terrible thorn. If Early will not pay \$2.00 [per acre] let him have it for \$1.00 or anything else."⁸⁹ The asking

⁸⁷ Ibid., pp. 1, 3.

⁸⁸ Lewis M. Haupt to Herman Haupt, February 28, 1883, Haupt Letterbook, 1863-1884, p. 172; The sale fell through and Lewis later wrote his brother Jacob that "the Menonite [sic] parties after an examination say it is too mountainous." Lewis M. Haupt to Jacob Haupt, April 26, 1883, Haupt Letterbook, 1863-1884, p. 271; Lewis was also trying to sell Haupt's western lands, offering them to Frederick Billings and trying to interest General Grant. He finally sold them to a relative. Lewis M. Haupt to Charles Edgar Haupt, September 25, 1883, Haupt Letterbook, 1863-1884, p. 395; Lewis M. Haupt to Frederick Billings, April 13, 1883, Haupt Letterbook, 1863-1884, p. 250.

⁸⁹ Herman Haupt to Lewis M. Haupt, May 18, 1883, Haupt Papers, Box 7.

price fell to fifty cents an acre, because Haupt was several years behind in the taxes which ran about \$500 per year.⁹⁰ The resort was still open, now being operated by Jacob, but with only 386 guests in 1883, it was still not a paying operation.⁹¹

Haupt's biggest financial headache in the early 1880's, excepting the Hoosac, was the Old Dominion Granite Company. Haupt had sold a majority interest in 1871 to Thomas Ackley, but remained president of the firm until 1876. While Haupt attended other business, Ackley and his majority partners, without calling a stockholders or board of directors meeting, mortgaged the company to themselves but allowed the mortgage to go unpaid and accumulate interest until it reached about \$50,000 in 1882.⁹² In addition they levied a \$1.00 per share assessment on the stock of the company. In 1882, Ackley and his partners decided to foreclose their mortgage and offer the property at a public

⁹⁰Lewis M. Haupt to Jacob Haupt, November 29, 1883, Haupt Letterbook, 1863-1884, p. 493; The taxes on the land in Monroe County were \$178.02 for 1881, and the survey was located in three counties. Lewis M. Haupt to C. Leach, Sheriff of Monroe County, Virginia, August 8, 1883, Haupt Letterbook, 1863-1884, p. 367.

⁹¹Lewis M. Haupt to Frederick J. Kimball, president of the Shenandoah Valley Railroad, December 22, 1884, Haupt Letterbook, 1863-1884, p. 792.

⁹²Chapman, "Haupt," IV-6 & 7, pp. 17-18; Extract of minutes of Board of Directors meeting of Old Dominion Granite Company, February 17, 1883, Haupt Papers, Box 7.

sale where they could repurchase it at a fraction of its actual value.⁹³

This was news to Haupt when he heard about it in 1882, and his first reaction was to offer his 2,830 shares to Ackley for \$3.35 per share and get out.⁹⁴ But Ackley predictably refused Haupt's offer and instead demanded immediate payment by Haupt of \$5,000 for his \$3,000 loan and his unpaid stock assessment. Haupt agreed and signed a note promising to pay \$100 per month at six percent.⁹⁵ Then Haupt discovered that the company had charged \$9,000 on his account, for which the court held him legally responsible. Haupt tried desperately to find a buyer for his stock so he could satisfy his debts and free himself, but failed.⁹⁶

Since Haupt lacked the capital to either purchase or operate the quarry, he tried to prevent the public sale by having Lewis obtain an injunction, charging mismanagement and undervaluation of the property.⁹⁷ The court

⁹³Statement of Lewis M. Haupt in the case of Herman Haupt vs. Thomas Ackley, March 7, 1883, Haupt Papers, Box 19.

⁹⁴Herman Haupt to Lewis M. Haupt, September 20, 1882, Haupt Papers, Box 7.

⁹⁵Copy of Haupt's note to Ackley, September 27, 1882, Haupt Letterbook, 1863-1884, p. 197.

⁹⁶Lewis M. Haupt to Charles L. Kalmbach, March 6, 1883, Haupt Letterbook, 1863-1884, p. 193.

⁹⁷Lewis M. Haupt to James G. Blaine, March 23, 1883, Haupt Letterbook, 1863-1884, p. 218.

granted the injunction, and the sale was postponed from March 15 to June 20, 1883.⁹⁸ On the day of the sale Lewis struck a bargain with Ackley whereby Haupt signed his shares over to him in return for release from the \$9,000 judgment.⁹⁹ Haupt was now free of the concern with the exception of Ackley's note, but Lewis calculated that his father lost \$82,515 in the quarry, including interest on his investment since 1871.¹⁰⁰

As if Haupt did not have enough troubles, he was also having problems with his son Jacob. Rumors reached Haupt at St. Paul in 1882 that Mt. Lake was being poorly operated and that Jacob was making and selling liquor. Haupt reacted by relieving Jacob from his duties, but allowed him to stay at Mt. Lake and agreed to pay \$400 per year for his family's support.¹⁰¹

Within the next two years Jacob became a habitual drunkard. Haupt wrote Lewis to throw him off the property

⁹⁸Charles Norton and Lewis M. Haupt to Stockholders of Old Dominion Granite Company, March 17, 1883, Haupt Papers, Box 7; Lewis M. Haupt to () Pollack, June 12, 1883, Haupt Letterbook, 1863-1884, p. 306.

⁹⁹Lewis M. Haupt to Herman Haupt, June 22, 1883, Haupt Letterbook, 1863-1884, p. 316; Copy of Minutes of Old Dominion Granite Company Board of Directors, July 20, 1883, Haupt Papers, Box 7.

¹⁰⁰Statement of Cost of O.D.G. Quarry to H. Haupt in Cash on or about April 1, 1871, Haupt Letterbook, 1863-1884, p. 195.

¹⁰¹Herman Haupt to Jacob Haupt, February 26, 1882, Haupt Papers, Box 7.

if he would not leave, but that if Jacob would agree to be committed to an asylum, Haupt would pay his expenses.¹⁰² However, Jacob could not be evicted because he had a written contract with his mother, who held the deed to Mt. Lake, allowing him to remain on the property.¹⁰³ Moreover, the still which Jacob operated made only apple brandy and selling it was not illegal since it contained no grain.¹⁰⁴ Thus there were no grounds for eviction. The problem continued for a number of years, but Haupt finally had Jacob committed to an asylum and assumed the obligation of supporting his wife and educating his children.¹⁰⁵

Soon after Haupt left the Northern Pacific, in the fall of 1883, Villard resigned from the presidency of the road. Haupt heard rumors that he was being considered for

¹⁰²Herman Haupt to Lewis M. Haupt, quoted in Lewis M. Haupt to George W. Easley, Virginia lawyer, September 25, 1884, Haupt Letterbook, 1863-1884, p. 741.

¹⁰³Contract between Anna Cecilia Haupt and Charles Edgar Haupt and Jacob Haupt, August 14, 1880, Haupt Letterbook, 1863-1884, p. 735; Lewis tried to break this contract and have Jacob evicted, but he was unable to do it without telling his mother of Jacob's condition. Since she was in very poor health, he decided to work around the contract. Lewis M. Haupt to () Phillips, September 15, 1884, Haupt Letterbook, 1863-1884, p. 731.

¹⁰⁴Lewis M. Haupt to J. B. Rawlston, Revenue Collector, October 8, 1884, Haupt Letterbook, 1863-1884, p. 572.

¹⁰⁵At the time of Haupt's death in 1905, Jacob was in an asylum in Virginia. Will of Herman Haupt, March 29, 1901.

the position. They were, however, unfounded.¹⁰⁶ Instead, Haupt accepted the presidency of the Dakota & Great Southern Railroad, which was still in the planning stage. The road was to run from Grand Forks, in the Dakota Territory, southwest to Tower City and thence southeast to Sioux City, Iowa, crossing fifteen different railroads.¹⁰⁷ As the trade press put it, the line was ". . . sure to be gobbled up within a short time . . ." by one of the transcontinentals.¹⁰⁸

But Haupt was more concerned with just getting the line financed and surveyed. Throughout late November and early December 1883, Haupt traveled the entire proposed route, searching for the best locations and talking to the leading citizens of the towns along the way seeking subscriptions.¹⁰⁹ When Haupt completed the trip, he wrote a prospectus for the road and went to New York City to try to raise funds to get the work started.¹¹⁰

¹⁰⁶Lewis M. Haupt to Harry Hensel, December 31, 1883, Haupt Letterbook, 1863-1884, p. 558; Lewis M. Haupt to Charles Edgar Haupt, January 10, 1884, Haupt Letterbook, 1863-1884, p. 572.

¹⁰⁷Railway World, December 1, 1883, p. 1236; Herman Haupt, The Dakota & Great Southern Railway of Dakota (Chicago: Rand McNally & Co., 1884), pp. 4-5.

¹⁰⁸Railway World, August 9, 1884, p. 757.

¹⁰⁹Lewis M. Haupt to William J. Roe, December 11, 1883, Haupt Letterbook, 1863-1884, p. 520.

¹¹⁰Lewis M. Haupt to Charles Edgar Haupt, January 10, 1884, Haupt Letterbook, 1863-1884, p. 568.

Despite the optimistic news published in the press that the road had already started construction by December 1, Haupt was unable to raise the needed money in New York.¹¹¹ The depression of 1883 and the low security prices, along with the sparse population along the proposed route, made Haupt's task all but impossible. On May 19, 1884, Lewis wrote in Philadelphia that "father is now here but rather discouraged at his outlook for [the] Dakota & Gt. Southern."¹¹²

Three days later Haupt went to New Jersey and then back again to New York. His travels were restricted by a bench warrant issued in Pennsylvania by his old partner in the Hoosac, Dungan, forcing Haupt to stay out of the state.¹¹³ After spending the summer of 1884 in New York without success, Haupt left for London in September and arrived October 4, but stayed only a short time.¹¹⁴ He went with the triple purpose of selling the Dakota & Great Southern bonds, locating a buyer for Mt. Lake, and seeing McKean about drill matters. On all three fronts he failed.

¹¹¹Railway World, December 1, 1883, p. 1241.

¹¹²Lewis M. Haupt to Joseph Meigs, May 19, 1884, Haupt Letterbook, 1863-1884, p. 688.

¹¹³Lewis M. Haupt to Meigs, May 22, 1884, Haupt Letterbook, 1863-1884, p. 693; Lewis M. Haupt to Charles Edgar Haupt, September 12, 1884, Haupt Letterbook, 1863-1884, p. 728.

¹¹⁴Lewis M. Haupt to Easley, October 18, 1884, Haupt Letterbook, 1863-1884, p. 756.

McKean met Haupt at the boat and informed him he had not made a dime on the drills. Haupt was unable to interest anyone in Mt. Lake, and raised nothing for the Dakota & Great Southern.¹¹⁵

Haupt's failure to raise money for the railroad meant the end of his usefulness to the road and sometime in June 1885 he resigned the presidency.¹¹⁶ Within the next year the management of the road changed two more times. Finally, in 1886, as predicted earlier in the trade press, the Milwaukee & St. Paul Railway Company purchased the road.¹¹⁷

When Haupt left the Dakota & Great Southern, his professional activities in the Northwest ceased. His record on the Northern Pacific was solid, although not always attuned to the desires of the hard-pressed front office. Haupt himself stated that "whatever opinions others may entertain, I can say that with the possible exception of my connection with the military railroads of the United States during the war, I have never made a record

¹¹⁵Lewis M. Haupt to Herman Haupt, October 24, 1884, Haupt Letterbook, 1863-1884, p. 756.

¹¹⁶Railroad Gazette, July 3, 1885, p. 48.

¹¹⁷Railroad Gazette, December 4, 1885, p. 781; P. M. Meyers (ed.), Mortgages Executed by the Milwaukee & St. Paul Railway Company and the Chicago, Milwaukee & St. Paul Railway Company since the date of organization, May 5, 1863. Also Mortgages Executed by Dakota & Great Southern Railway Company . . . (n.p.: Chicago, Milwaukee & St. Paul Railway Co., 1903), I, 704-721.

more satisfactory to myself in the results accomplished than on the Northern Pacific."¹¹⁸ He left the road a compact, well developed organization with a good foundation for future growth. But his experience of attempting to operate a railroad while located a half a continent away from the main office ended in a predictable misunderstanding. Haupt was too remotely located to keep well informed on the financial aspects of the road.

On a personal level Haupt was not in much better financial shape than he had been in 1880. His investments in the West, like most of those he made after the Civil War, were unproductive. But this did not deter him from plunging ahead with others. Although Haupt was sixty-eight years old in 1885, past the normal age for retirement, his career was far from completed.

¹¹⁸Haupt, Explanations in Reference to Change of Management, p. 2.

CHAPTER XVII

SEMI-RETIREMENT

Haupt lived twenty years after retiring as president of the Dakota and Great Southern and although he never again held a steady salaried position, neither did he completely retire. During these years he alternated between spurts of activity and long periods of relative quiet when for the first time he just enjoyed his children and grandchildren.

After leaving St. Paul in 1885, Haupt remained professionally inactive for six years, devoting his time to looking after Anna Cecilia who was ill with a severe lung condition and working on a manuscript which eventually was published as Reminiscences of General Herman Haupt. He had long intended to write his memoirs covering what he considered the most successful period of his career, and with a little push from his son Lewis, completed the task by February 1889.¹ Haupt sent the manuscript to the publication office of the war records for an editorial comment.

¹Herman Haupt to Lewis M. Haupt, February 24, 1889, Haupt Papers, Box 9; In contrast to most memoirs, Haupt included full texts of most of his important official correspondence, interspaced with personal recollections of events and personalities.

That office copied some of the correspondence for inclusion in the Official Records series and advised Haupt not to delay publication.²

Early in 1889 Haupt sent the completed work to Appleton's publishing house for consideration but was informed that it was ". . . doubtful whether there would be sufficient sales to make it pay, . . ."³ Haupt filed his work away for thirteen years, until 1901, when he decided that he would personally bear the expense of publication. He contracted with a printing firm in Milwaukee to publish 900 copies and personally raised a small subscription list, which netted about \$400 toward the costs of publication.⁴ The book appeared in 1901 with a lengthy introduction summarizing Haupt's career, written by historian Frank Abial Flower, with help from Haupt.⁵ Flower also handled the distribution of the books, sending them out during 1902 as gifts to whomever Haupt designated.⁶ People as diverse as Andrew Carnegie and Booker T. Washington acknowledged

²Colonel W. M. ——— to Herman Haupt, March 26, 1889, Adamson Collection.

³Herman Haupt to Lewis M. Haupt, February 24, 1889, Haupt Papers, Box 9.

⁴Frank Abial Flower to Lewis M. Haupt, February 28, 1906, Haupt Papers, Box 9.

⁵Haupt, Reminiscences, pp. xiii-xl.

⁶Flower to Lewis M. Haupt, February 28, 1906, Haupt Papers, Box 9.

receipt of complimentary copies.⁷ Haupt also hired a woman to draw up a list of West Point graduates from which he chose selected individuals to receive copies. To repay Flower for the postage expenses, Haupt allowed him to sell the remaining copies to a book dealer for \$100.⁸

After finishing his military memoirs in 1889, Haupt sat down to write a complete autobiography. But unfortunately he quit after writing sixty pages which carried his life up to only the age of twenty-one. Although he often announced his intention of finishing the work, it remained incomplete at his death.⁹

Between 1884 and 1888 Haupt had no permanent residence and divided his time between Mt. Lake, Philadelphia, and St. Paul. It was not until 1888 that he decided to rent a house at 2104 14th Street, N.W., in Washington, D.C. and settle down again.¹⁰ He remained there for two years and then he bought a large three-story brownstone house at 1707 19th Street, N.W., in November 1890.¹¹

In 1888, soon after Haupt moved to Washington, he attended the last large family gathering with Anna Cecilia

⁷Haupt to Carnegie, January 6, 1902, Adamson Collection; Booker T. Washington to Haupt, November 17, 1902, Adamson Collection.

⁸Flower to Lewis M. Haupt, February 28, 1906, Haupt Papers, Box 9.

⁹Haupt, "Memoirs," p. 1.

¹⁰Photograph, Adamson Collection.

¹¹Ibid.

and the children, celebrating their fiftieth wedding anniversary on August 30, at Mt. Lake. It was marred only by the absence of son Frank Haupt and his family who were in California, but their absence was hardly noticed in the profusion of grandchildren and in-laws.¹² The highlight of the festivities, held in the huge seventy-two-foot long dining hall, was a procession led by Herman Haupt Chapman carrying a banner decorated with lace that had once adorned a flag under which Haupt had marched as a cadet at the Point. Included in the procession was a very patient ox, covered with a cream-colored cloth and bearing a howdah containing a grandchild.¹³ After the procession there were prayers, poems, speeches, and music provided by a local band, ending with a dance. At 10:00 P.M. everybody was taken outside for a family portrait, after which the gifts presented to the couple were opened.¹⁴

Anna Cecilia's health continued to decline after moving to Washington and her activities diminished in proportion. Cecilia, Haupt's unmarried daughter, moved into their Washington house to care for her mother and was in attendance when Anna Cecilia died at 5:00 A.M. on Saturday, April 11, 1891. By Monday all her children had arrived in

¹²Chapman, "Haupt," IV-2, p. 1.

¹³Souvenir of the Golden Wedding of Herman Haupt and Anna Cecilia Haupt, pp. 4-8.

¹⁴Ibid., p. 30; Photograph, Adamson Collection.

Washington from Philadelphia, St. Paul, and Chicago, and the following day the family accompanied the body to Philadelphia where she was buried in West Laurel Hill Cemetery.¹⁵

Anna Cecilia's death had a strange effect upon Haupt. Although he was grieved at her loss, rather than becoming morose and introspective he once again entered active life and took up new interests. Perhaps it was because he was freed from worry about her health or because he was lonely, but he suddenly revived old interests, acquired new ones, published his Reminiscences, made some investments, and traveled again.

It was the engineer in Haupt that first awakened. In 1892 he had a chance meeting with Robert Hardie, the inventor of the compressed air motor upon which Haupt had reported in 1879, who was now working as a mechanical engineer preparing for the opening of the 1893 Columbian Exposition in Chicago.¹⁶ Hardie had not given up on compressed air motors and after a long technical discussion, imbued Haupt with some of his enthusiasm. Haupt returned to Washington and unearthed the results of the experiments with the Hardie motor in 1879 and wrote an article extolling its technical superiority and economy, which was

¹⁵Death notice of Anna Cecilia from Herman Haupt to Friends, April 17, 1891, Hensel Family Papers.

¹⁶New York Sun, March 28, 1897.

published in Engineering Magazine, in August 1892.¹⁷

After the publication of the article, Haupt spent the winter of 1892 examining the feasibility and cost of different types of motive power available for streetcars, comparing them to compressed air. He summarized the results of these lengthy computations in a book, Street Railway Motors, published in 1893. In it he called for the adoption of compressed air as the most patently superior mode of urban transportation available.¹⁸

The publication of his book did not convince any companies to adopt compressed air, but it did persuade a group of men to form the General Compressed Air Company, hire Haupt as consulting engineer at \$250 per month, and construct several full size experimental motors in Rome, New York.¹⁹ With a little financial backing, Haupt really began in earnest to carry the advantages of compressed air to the public. He followed his book with a pamphlet in March 1894,²⁰ giving a summary of the conclusions in his book and later in the year he published an open letter to

¹⁷Herman Haupt, "Compressed Air for Street-Cars," The Engineering Magazine, III (August, 1892), 617-622.

¹⁸Haupt, Street Railway Motors, p. 190.

¹⁹New York Sun, March 28, 1897; Notes made by Haupt, 1898, Haupt Papers, Box 18.

²⁰Herman Haupt, Relative Cost of Steam, Compressed Air and Electricity For the Operation of Railroads (Washington, D.C.: no publisher, March 23, 1894).

Abram S. Hewitt, ex-mayor of New York City and chairman of the Rapid Transit Commission, entitled Rapid Transit in New York.²¹

Haupt's open letter to Hewitt was prompted by a debate on the Rapid Transit Commission in New York City over the construction of a subway system for the improvement of the rush hour traffic flow.²² Haupt had failed to impress streetcar companies in Philadelphia with compressed air, probably because one of the companies was run by Haupt's old antagonist, Thomas Ackley, and he had also failed to secure its adoption in Boston.²³ The debate in New York gave Haupt his chance to popularize the concept of compressed air and slow down the trend toward electric motors. He broadcast copies of his open letter widely and granted

²¹Herman Haupt, Rapid Transit in New York, Open Letter to Hon. Abram S. Hewitt, on the various motive power systems proposed for the operation of rapid transit lines in the city of New York (Washington, D.C.: Byron S. Adams, Printer, 1894); Hewitt was elected mayor of New York City in 1886, winning over Theodore Roosevelt and Henry George. He served one term through 1888. Hewitt was a strong supporter of a city-owned subway system, although the necessary legislation for construction was not passed until 1894. Allan Nevins, Abram S. Hewitt With Some Account of Peter Cooper (New York: Harper & Brothers, 1935), pp. 470, 528.

²²Nevins, Abram S. Hewitt, p. 503.

²³Ackley was president of the Thirteenth & Fifteenth Streets Railway Company in Philadelphia. Letterhead, Ackley to Haupt, March 18, 1880, Haupt Papers, Box 7.

interviews to any willing newspaper.²⁴

Late in 1895 Haupt wrote a long technical paper, published as Long Distance Transmission of Power, in an attempt to discredit the feasibility of transmitting cheap electricity across New York State from the proposed hydro-electric power plant at Niagara Falls.²⁵ Haupt corresponded with electrical engineers on the subject and concluded that electricity could only be transmitted cheaply by using voltages in the range of 20,000 volts, at which point insulators broke down and expensive transformers were required.²⁶ Haupt proposed that the Falls, instead of being used to generate electricity, should be used to operate air compressors. He took the formulas he derived for the transmission of fluids through pipes for the Tide Water pipeline and calculated that compressed air could be transmitted through pipes for distances of up to 100 miles much more economically than electricity could cover the same distance through wires. To cover all his bases, Haupt proposed that compressed air be transmitted to towns and used to operate electrical generators for local consumption.²⁷

²⁴Abram S. Hewitt to Haupt, November 13, 1893, Minnesota Haupt Papers; George B. Roberts, president of the Pennsylvania Railroad, to Haupt, December 11, 1894, Minnesota Haupt Papers; George S. Boutwell, ex-Secretary of the Treasury, to Haupt, January 1, 1895, Minnesota Haupt Papers.

²⁵Herman Haupt, Long Distance Transmission of Power (New York: no publisher, 1895).

²⁶Ibid., p. 4. ²⁷Ibid., pp. 21, 36.

However, Haupt was unable to stem the rush to electric railways. Despite successful tests of the Rome compressed air motors on the 125th Street Elevated Railway in New York and the publication of another article in the Journal of the Franklin Institute in 1897, the general introduction of compressed air remained just a dream so long as no capital was forthcoming.²⁸ Haupt remained as a consulting engineer for the General Compressed Air Company until the end of March 1898, when he was relieved. The company was in such poor financial condition that Haupt never recovered his salary for his last four months' services. He was also president of the American Air Power Company for a short time from November 1897, until the end of March 1898, at a salary of \$5,000 per year, but he never received a cent of his salary.²⁹ Neither of the compressed air companies was ever listed on any stock exchange.

While Haupt was occupied with his futile quest to promote the introduction of compressed air, he developed a new interest in the problem of containing floods and preventing the buildup of sediment in the mouth of the lower

²⁸Herman Haupt, "Compressed Air for City and Suburban Traction," Journal of the Franklin Institute, CXLIII (January-February, 1897), 13-26, 119-132.

²⁹Notes made by Haupt, 1898, Haupt Papers, Box 18. Haupt purchased an unknown amount of stock in the General Compressed Air Company. In late 1896 he was still waiting for the stock to acquire some value so he could unload it. Herman Haupt to Ella Haupt Chapman, November 10, 1896, Haupt Papers, Box 9.

Mississippi River. It is not clear what encouraged Haupt to investigate the Mississippi, but his attention was directed to the problem as early as 1893 when he was hired by the Lilienthal Brothers of New York City to examine the harbors along the coast of Texas.³⁰

Haupt took a steamboat down the Ohio and Mississippi to Vicksburg where he wrote Lewis, ". . . I found my old friend Judge Marshall still living and very bright intellectually, but a wreck physically. . . . All the old directors of the Company are dead and the country not much improved and not susceptible of improvement."³¹ He continued on to New Orleans and thence to Galveston, Texas, where he took notes of sediment deposits and other harbor conditions, and was back in New York City by early May to file his report.³²

His interest in the Mississippi lay dormant for the next four years, but Lewis, a professor of civil engineering at the University of Pennsylvania, was conducting

³⁰Haupt to Lilienthal Brothers, May 17, 1893, Haupt Papers, Box 8; Haupt's attention had also been directed to harbor problems the previous year when he attended the National Nicaragua Canal Convention in St. Louis as a delegate from Washington, D.C. Lewis was an active proponent of a Nicaraguan canal. Appointment of Haupt as a delegate to National Nicaragua Canal Convention, May 27, 1892, Haupt Papers, Box 8.

³¹Herman Haupt to Lewis M. Haupt, March 23, 1893, Haupt Papers, Box 8.

³²Haupt to Lilienthal Brothers, May 17, 1893, Haupt Papers, Box 8.

experiments with the construction of a jetty which extended out from the mouth of the river creating a natural scour of the riverbed far superior to a twin jetty system proposed by the army engineers.³³

In 1897 Haupt researched the problem of the buildup of sediment in the river and the remedy proposed by the Corps of Army engineers and the Mississippi River Commission of high levees from Cairo, Illinois, to the mouth of the river. Haupt concluded that this reliance on levees neither protected the lower river from floods nor secured the desired scour. Haupt pointed out in two articles published in the New York Sun in May and June 1897, that scours were created by the slope of the riverbed and that the levees would only build up the deposits at the lower end of the river, reducing the slope and the scour along the entire route. Furthermore, the levees did not protect against floods, for as the river silted up the levees would have to be heightened to compensate for the raised level of the bed.³⁴

In a series of articles in the Journal of the Franklin Institute in April 1899, and the Gulf Ports Marine

³³Lewis was awarded the Magellan gold medal, an award given only about twice a century, from the American Philosophical Society for his jetty. Haupt to Carnegie, January 6, 1902, Adamson Collection.

³⁴New York Sun, May 23, 1897; New York Sun, June 8, 1897.

Journal in 1902. Haupt put forth a counterproposal to the levee system.³⁵ He suggested small levees for local protection and the construction of outlets along the river to release surplus water in the spring. He proposed that Lakes Borgne and Pontchartrain and the Atchafalaya River be used as emergency outlets for the overflow. Moreover, small reservoirs could be constructed along the river and filled in the spring and used for irrigation during the dry summer season. Much of the silt brought down in the spring would thus be channeled off into swampy lands and a correct slope could be maintained within the river by dredging in the summer and fall.³⁶

Haupt's plans were largely ignored, and he concentrated on finding a financial backer willing to capitalize a test of Lewis' jetty at the south pass of the Mississippi. He visited Carnegie on January 3, 1902, to interest him in the project, but received no definite commitment.³⁷ Haupt renewed the request two years later stating that "Professor Haupt is very anxious to open this outlet, for the relief

³⁵Herman Haupt, "The Problem of the Mississippi," Journal of the Franklin Institute, CXLVII (April, 1899), 297; Herman Haupt, "The Problem of the Mississippi," Gulf Ports Marine Journal, I (May 31-July 5, 1902). This article was reprinted as a pamphlet in 1905.

³⁶Haupt, "The Problem of the Mississippi," pamphlet, pp. 23-27.

³⁷Haupt to Carnegie, January 6, 1902, Adamson Collection.

of the Valley and its commerce, but needs a patron so that he may make a tender to Congress to do the work and afterwards have its value appraised and a fair price paid back by the Government for the forty foot channel which will result from his method."³⁸ However, Carnegie could not be persuaded, and Haupt was forced to abandon the enterprise.

Unfortunately, Haupt did not live long enough to see the fruition of his plans for the Mississippi. The army engineers continued to rely exclusively upon a series of ever higher levees along the river until the disastrous flood of 1927. This calamity convinced them that something more was necessary, and they turned to a plan remarkably similar to Haupt's.³⁹ Outlets for the overflow were constructed into the Atchafalaya River and Lake Pontchartrain as Haupt had suggested, and in addition the engineers straightened out the worst bends in the river. Today, much of what he proposed at the turn of the century is a reality, and forms the basis for the Mississippi flood control project.⁴⁰

³⁸Haupt to Carnegie, October 29, 1904, Haupt Papers, Box 9.

³⁹William E. Elam, Speeding Floods to the Sea, or the Evolution of Flood Control Engineering on the Mississippi River (New York: The Hobson Book Press, 1946), p. 46.

⁴⁰Ibid., pp. 63-72; Arthur D. Frank, The Development of the Federal Program of Flood Control on the Mississippi River (New York: Columbia University Press, 1930), p. 220.

While Haupt engaged in his various technical interests, his financial situation continued to decline. He did score one success with the sale of the Mt. Lake tract. After spending twenty fruitless years searching for a buyer he finally turned the land over to a commission agent, Frank Woodman, early in 1891 to sell for him. Woodman did what Haupt refused to do; break the tract up into any size parcels that would attract a buyer.⁴¹ Under this plan, Woodman disposed of the entire survey within two years for about \$200,000.⁴² However, Haupt did not realize the full amount from the sale of the property. Portions of the land had been settled by numerous squatters over the past twenty years, and he refused to evict them. When Woodman sold the lands, he withheld \$50,000 until Haupt would clear out the illegal settlers and secure an absolutely clear title.⁴³ Haupt had originally planned to allow them to stay and allot about \$20,000 from the sale price to support a

⁴¹Haupt to Frank Woodman, January 21, 1891, Haupt Papers, Box 8.

⁴²The records for the sale of the property are missing. Various letters of Haupt's show he received at least \$175,000 but do not account for the sale of all the acreage. An educated guess would put the whole sale price at \$200,000. Haupt to Woodman, January 29, 1891, Haupt Papers, Box 8.

⁴³Haupt to Bud ———, April 19, 1904, Haupt Papers, Box 9.

mission and a home for them.⁴⁴ Even under the threat of withheld funds, Haupt refused to disturb the squatters, and took the \$50,000 loss.⁴⁵

The money Haupt received in 1892 did not last very long. He continued his policy of distributing his assets among his children and by that year had parceled out about \$100,000, including money from the sale of his St. Paul home and part of the Mt. Lake proceeds. However, Haupt invested most of the Mt. Lake money in a scheme to build rental housing in Norfolk, Virginia. He went into the partnership with two other men, E. R. Baird, Jr., and C. J. Acker, to build a number of houses at a total cost of about \$100,000. Haupt did not attend to the project personally, and in his absence his two partners used his \$100,000 to secure loans to build houses of their own. Thus, when Haupt's buildings were completed, he found them saddled with large mechanic's liens which he could not cover, and he lost his entire investment, although only after paying

⁴⁴Haupt to Bud ———, September 29, 1892, Haupt Papers, Box 8. While Haupt owned Mt. Lake, he and Anna Cecilia spent a great deal of time and money trying to improve the lot of the natives. Haupt always refused to evict the squatters, even when a prospective purchaser demanded an absolutely clear title.

⁴⁵Haupt to Bud ———, April 19, 1904, Haupt Papers, Box 9; However Haupt did evict Jacob in 1891. For a sum of \$500 Jacob agreed to leave and release Haupt, Lewis and Anna Cecilia's estate from any claims in the future. Agreement between Herman Haupt, Lewis Haupt, and Jacob Haupt, August 11, 1891, Haupt Papers, Box 8.

the taxes on the property for several years.⁴⁶

The houses in Norfolk marked the last large investment made by Haupt, although not his last unprofitable venture. After 1892 Haupt found it increasingly difficult just to meet his daily expenses and had to reduce his disbursements to his children. Between 1881 and 1892 he distributed his assets at a steady rate of about \$5,000 per year, with larger payments coming after the sale of property.⁴⁷ From 1892 until 1898 Haupt's gifts fell off to an average of less than \$2,000 per year, including the support payments to Jacob's wife and children.⁴⁸ For the last three years of the century Haupt's personal expenses were meager, less than \$1,000 per year, although his total expenses including the support of daughter Cecilia, who remained with him until his death, his Washington house, and insurance and medical costs, ran about \$5,000 per year.⁴⁹

In 1892, Haupt and Cecilia moved into an apartment

⁴⁶The details of this venture were related by Haupt's daughter, Ella, to her son Herman Haupt Chapman. Chapman, "Haupt," IV-5, p. 22; The only proof of the investment is a receipt for the taxes on the property for the years 1893-1894, totalling \$791.63. Tax receipt to the City of Norfolk, Virginia, March 30, 1895, Haupt Papers, Box 18.

⁴⁷Payments made to Children by Check since May 6/81, Haupt Papers, Box 18.

⁴⁸Ibid.

⁴⁹Expenses of H. Haupt for the year 1898 to 1900 as shown by checks from checkbook, n.d., Haupt Papers, Box 18.

in the Concord Hotel in Washington and rented out the Washington house for \$800 per year.⁵⁰ The only other steady income on which Haupt could rely was about \$1,100 per year from properties he still owned in St. Paul.⁵¹ Thus, for the last ten years of his life, except for the periods when he was able to collect consulting fees, he lived at a deficit of about \$3,000 per year. When Haupt computed his assets in 1897 he found that he was worth only \$23,507, including some notes he held that were uncollectible. However, when the \$13,000 mortgage on the Washington house was deducted he was left with only \$10,000.⁵²

Haupt's tight finances, his debtor status, and the silver issue in the presidential campaign of 1896 led him for the first time in 1897 to investigate national economic questions. He began his investigation by positing that any standard of value is set by the worth of labor and worked backwards. He reasoned that since in the demonetization of silver in 1873 the volume of currency was reduced by one-half, the value of gold must have been

⁵⁰Comparative estimate of expenses between keeping house at 1709 19th St. and apartment at the Concord, n.d., Haupt Papers, Box 18.

⁵¹Ibid.; However, Haupt still owned some lands in the Dakotas on which he owed back taxes of \$500 in 1889. It is not known when he sold these lands. H. W. Knauff to Haupt, September 9, 1889, Haupt Papers, Box 8.

⁵²Comparative estimate of expenses between keeping house at 1709 19th St. and apartment at the Concord, n.d., Haupt Papers, Box 18.

doubled. The result was that the value of labor was halved and a permanent poverty-stricken, debtor class of laborers was created while the money lenders or "shylocks" were enabled ". . . to corner gold, contract the currency and create panics."⁵³

Haupt's solution for relief of this dispossessed class was the adoption of bimetallism and an expansion of the money supply by the United States, thus restoring the value of labor to its former place and reducing the pressure on debtors.⁵⁴ In an article published in 1897 in the magazine The Arena, Haupt expanded his original thoughts and attributed the demonetization of silver to an international banking conspiracy, started during the Civil War.⁵⁵ Haupt held that the agitation for the bimetallic standard was not inimical to capital and labor, but only to the banking community. He reasoned that capital was on the side of labor, for most employers sought to pay fair wages and promote the well-being of their employees, but were prevented from doing so by the moneylender who appropriates

⁵³Herman Haupt, "Axioms," n.d., Haupt Papers, Box 19.

⁵⁴Herman Haupt, "Financial Suggestions," n.d., Haupt Papers, Box 19.

⁵⁵Herman Haupt, "Finance and Currency," The Arena, XVII (January, 1897), 217-235; Haupt held ". . . that Congress, and especially the Senate, has been under the direction and control of the money power since 1861, and that power has dictated all the financial legislation." Ibid., p. 226.

wealth ". . . by means which, if not made criminal by laws that he has helped to frame, are nevertheless gigantic robberies and crimes against humanity."⁵⁶

Haupt wrote several pamphlets in the same vein and distributed them widely among his friends. Although it is doubtful that Haupt supported Bryan in 1896, he did send him a copy of his pamphlet Hard Times the year after the election, and by 1900 Haupt was probably agitated enough to vote Democratic in hopes of defeating the gold standard.⁵⁷

Soon after the re-election of McKinley in 1900, Haupt published a lengthy pamphlet entitled The Presidential Election of 1900 and its Probable Consequences, warning of the dismal future in prospect for the country with the triumph of gold over silver.⁵⁸ The growing clamor of the Progressives and muckraking press at the turn of the century did not escape Haupt's attention, for these men were

⁵⁶Ibid., p. 232.

⁵⁷A copy of Hard Times has not been located. William Jennings Bryan to Haupt, March 13, 1897, Adamson Collection; Haupt's family opposed his stand on the silver question, but they were unable to dissuade him. Haupt wrote his daughter Ella, "how has honest money affected me? I invested \$150,000 in what were supposed to be gilt edged securities; default has been made on every investment. . . . I have not a dollar of income from any source and constant calls for funds. . . . I have laid awake for hours in bed thinking over the situation and trying to work out some plan of relief, but there is nothing yet in sight." Herman Haupt to Ella Haupt Chapman, November 10, 1896, Haupt Papers, Box 9.

⁵⁸Herman Haupt, The Presidential Election of 1900 and its Probable Consequences (n.p.: no publisher, 1901), passim, Haupt Papers, Box 9.

saying exactly what he had been trying to say since 1897. Haupt, like many others with waning influence and declining positions, began looking for the source of his troubles. He evolved a conspiracy theory with the culprits being the large corporations and the politicians who were scheming for control of the resources of the nation. Haupt abandoned his earlier support of the industrialists, and in a long letter to Lewis written in 1905, he poured out his hopes and fears.⁵⁹

Haupt railed that "the menace of the age is the unequal distribution of wealth, the very condition which preceded the fall of Rome. There must be a crisis, and revolution and a reconstruction and in this is hope. . . . The corporations and trusts are not influenced by any humanitarian considerations. You know that I am familiar with the history of the Rockefeller operations." Haupt opposed the Spanish-American war as an instrument of the "capitalistic conspiracy" which was to import Asian workers to labor for a mere pittance and use these wages as a guideline for American laborers. Eventually, Haupt predicted, American labor will resist and ". . . there will be an uprising such as the world has never known. [John] Pierpont Morgan will be dethroned and a man put in charge of the railroads to operate them in the interests of the people

⁵⁹Herman Haupt to Lewis M. Haupt, April 16, 1905, Haupt Papers, Box 9.

and so will other utilities." Haupt was even able to find something kind to say about socialism, which he described as recognizing ". . . to some extent the right of humanity and seeks to apply the golden rule but is denounced and misrepresented by aristocrats as anarchy while it is the very opposite."⁶⁰

Haupt also turned to religion for solace he was unable to find elsewhere. His basic religious tenets formed at West Point were little changed at the end of his life. He wrote Lewis in 1890 that "I accept scripture as divine revelation. What I cannot understand I still believe. If I believed only what I understood my creed would be a short one."⁶¹ Haupt became convinced by 1904 that less than one person in a dozen had any notion of what constituted a Christian. Haupt wrote Charles Edgar that Christians ". . . imagine and persuade themselves that religion consists in joining some church, listening to sermons, conforming to forms and ceremonies which have no divine connection and forget that humility and self denying services for humanity are the distinguishing characteristics of the true Christian, not the desire for self gratification." Haupt continued that he could not understand how self-professed Christians could live comfortably "and

⁶⁰Ibid.

⁶¹Herman Haupt to Lewis M. Haupt, April 24, 1890, Haupt Papers, Box 8.

turn their backs upon the poor."⁶²

Although Haupt was living on borrowed money for the last ten years of his life, he gave between \$200 and \$500 per year to charitable causes and tried to raise additional funds from wealthy friends for causes he felt were worthy.⁶³ He took a keen interest in the Salvation Army and was a close friend of Maud S. Booth, the daughter-in-law of William Booth, founder of the Army. Haupt frequently visited the Booth home in New Rochelle during the 1890's until they were transferred.⁶⁴

Haupt took an interest also in urban social projects, contributing small amounts to Jane Addams' settlement house in Chicago and to a New York widow Mrs. Elizabeth Grannis, who he at one time considered marrying.⁶⁵

⁶²Herman Haupt to Charles Edgar Haupt, May 24, 1904, Association of American Railroads Library; Haupt also published a series of religious articles entitled, "What is Truth, What is Duty?," "Modern Christianity," "Serious Facts, Subjects for Meditation," in the Lutheran Observer during 1899, cited in Chapman, "Haupt," IV-5, p. 13.

⁶³Expenses of H. Haupt for the year 1898 to 1900 as shown by checks from checkbook, n.d., Haupt Papers, Box 18.

⁶⁴Maud Booth to Haupt, January 16, 1896, Minnesota Haupt Papers; Mamwill Work, chief of staff of Salvation Army, London, to Haupt, February 1, 1896, Minnesota Haupt Papers; On one of Haupt's visits to the Booth home, Maud Booth offered Haupt's granddaughter, Bessie, a job playing the piano on streetcorners. Mrs. Susan Haupt Adamson to author, May 24, 1968.

⁶⁵Mrs. Susan Haupt Adamson to author, May 24, 1968; Chapman, "Haupt," IV- 6 & 7, p. 28; No correspondence has been found indicating any romantic attachment between Haupt and Mrs. Grannis, but he did visit her frequently.

Mrs. Grannis was poor herself, but owned a large home in New York in which she rented rooms and contributed as she could to needy in her area.⁶⁶ In October 1904 Haupt attempted to induce Carnegie to contribute to her projects,⁶⁷ but when Carnegie refused, Haupt wrote Lewis that "I have given up all hope of influencing him for anything that is not in the direct line of gratifying his personal vanity."⁶⁸ However, when Haupt appealed to Carnegie several months later for a loan to meet personal expenses, Carnegie replied immediately with \$5,000 and required no collateral, interest, or terms of repayment.⁶⁹

Another widow in New York, Mrs. Julia Nightengale, who operated charitable activities similar to those of Mrs. Grannis, also received small amounts from Haupt. In his will, Haupt left both widows small amounts of stock to help carry on their work.⁷⁰ He also took an active interest in the woman's suffrage movement and corresponded regularly during 1905 with Susan Look Avery of Chicago, a leader of

⁶⁶Mrs. Susan Haupt Adamson to author, May 24, 1968. Mrs. Adamson accompanied Haupt on at least one occasion to visit Mrs. Grannis.

⁶⁷Carnegie to Haupt, November 1, 1904, Minnesota Haupt Papers.

⁶⁸Herman Haupt to Lewis M. Haupt, January 3, 1905, Haupt Papers, Box 9.

⁶⁹R. H. Franks, Carnegie's secretary, to Haupt, March 14, 1905, Haupt Papers, Box 9.

⁷⁰Will of Herman Haupt, March 29, 1901.

the movement.⁷¹

Most of Haupt's disillusionment in later years arose from his last financial venture, in which once again he was betrayed by trusted business partners. Haupt became interested in a process of refining butter developed and patented by Joseph H. Campbell and his son, Charles, in 1895. The Campbells then turned their attention to developing a technique for condensing milk and reducing it to a soluble powdered form. By 1900 the two men had taken out several patents on the still unperfected process. Haupt was acquainted with Joseph Campbell, and when Campbell was unable to raise the necessary money in 1899 to promote further research, the two men decided to form a corporation.⁷² On September 8, 1899, the National Nutrient Company was formed under the laws of the state of New Jersey and capitalized at \$3,000,000 with Haupt as president, H.W. Wallace, formerly associated with Haupt in the General Compressed Air Company, as secretary and treasurer, and Campbell as vice president and general manager.⁷³

Haupt invested his last \$10,000 in the firm, purchasing 1,000 shares of stock.⁷⁴ Within a year Campbell

⁷¹Susan Look Avery to Haupt, October 27, 1905, Adamson Collection.

⁷²Chapman, "Haupt," IV-5, pp. 13a-14.

⁷³Prospectus, National Nutrient Company, n.d., p. 1, Haupt Papers, Box 19.

⁷⁴Chapman, "Haupt," IV-5, p. 14.

perfected a manufacturing process, received the necessary patents for protection, and a plant was started in New Jersey. Markets were secured for the powdered milk and licenses were granted for the establishment of subsidiary companies. The future for the process looked exceedingly bright, for the armed services appeared to be a logical market for the powdered milk as well as the tropics. Despite the encouraging prospects, sales of stock were small. Only about \$350,000 was raised initially on the sale of common stock, making Haupt's equity in the company proportionately large.⁷⁵

However, Joseph Campbell died and his two sons, who assumed control of the firm along with Haupt's former business associate, Wallace, reorganized as the National White Cross Milk Company and increased the capitalization to \$10,000,000, squeezing Haupt out of active management. The two Campbell brothers ignored the technical problems still remaining, the worst of which was the horrible stench of the milk, and fired the chief engineer. Under such irresponsible management, the company floundered and neither attracted new investors nor paid dividends on its stock.⁷⁶

⁷⁵Typewritten summary of the condition of the company, n.d., Haupt Papers, Box 17.

⁷⁶Chapman, "Haupt," IV-5, pp. 14-15; Haupt had his grandchildren mix him a drink of the milk every night when he was visiting and Mrs. Adamson remembers the milk as having "a repulsive odor." Mrs. Susan Haupt Adamson to author, May 7, 1968.

Haupt had tied up his last available capital in this venture and his assets now consisted largely of Nutrium stock and some old St. Anthony Park Bonds. He tried to sell his Nutrium stock, but it had no value and was not listed on any exchange. He was similarly unable to use the stock as collateral to raise loans. Haupt wrote Lewis in December 1902 that "I have nothing left to raise money upon. We are still suffering from the treachery of Wallace . . . more than a year ago."⁷⁷ Haupt continued to search for buyers for his stock or money to capitalize a takeover of the company, but without success.⁷⁸ In March 1905, he wrote Lewis despondently, "I wish I could find some employment in which I could take an interest that would give me employment and be of use to the world."⁷⁹

One problem Haupt did not have in his old age was poor health. He remained robust for his age, and during the summer of 1905, at the age of eighty-seven, he took a train to St. Paul and visited with his daughter, Ella Chapman.⁸⁰ Haupt returned from the Northwest on September 4 and spent the next two months attempting to negotiate a

⁷⁷Herman Haupt to Lewis M. Haupt, December 13, 1902, Haupt Papers, Box 9.

⁷⁸Herman Haupt to Lewis M. Haupt, January 11, 1905, Haupt Papers, Box 9.

⁷⁹Herman Haupt to Lewis M. Haupt, March 23, 1905, Haupt Papers, Box 9.

⁸⁰The St. Paul Pioneer, August 26, 1905.

loan for \$3,000 to meet his living expenses. He continued to press the Campbell brothers to put the Nutrient Company on a dividend paying basis or to buy out his equity, but with no success.⁸¹ Finally, Haupt decided to go to Jersey City to personally urge upon them a sensible course of action. He left Washington on December 10, stopping over in Philadelphia and continuing to New York City on the eleventh.⁸²

Haupt's trip was futile; the Campbell brothers refused either to heed his advice or give any financial aid. Haupt dejectedly left the meeting to return to the train station on December 13 to go back to Philadelphia. But on the street he suffered a stroke and collapsed. He was helped back to his room and Lewis was telegraphed to come and attend his father.⁸³ The next morning, Lewis, upon the advice of the doctor, put his father in a wheelchair and took him down to the station to catch the 8:25 train to Philadelphia.⁸⁴ While waiting for the elevator in the station Haupt turned to Lewis and said, "they are a long time

⁸¹Haupt to Charles Campbell, November 24, 1905, Haupt Papers, Box 9.

⁸²Herman Haupt to Lewis M. Haupt, December 7, 1905, Haupt Papers, Box 9.

⁸³Lewis diagnosed Haupt's illness as a heart attack. Note attached by Lewis to letter of Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19.

⁸⁴New York Times, December 15, 1905.

coming."⁸⁵ These were his last words, for once aboard the Pennsylvania Railroad's chaircar "Irma," he said nothing until the train started to leave the station, when he leaned over to speak to Lewis and fell dead in his arms.⁸⁶ Haupt's body was returned to Philadelphia and interred in the West Laurel Hill Cemetery next to Anna Cecilia.⁸⁷

* * * * *

Epilogue

Haupt in his will named Lewis as executor. After examining the accounts of the estate, Lewis calculated that Haupt owed \$15,000 at the time of his death and he had a bank balance of only \$2,700, all borrowed.⁸⁸ Lewis' first step was to reduce the debt, and he wrote Carnegie asking whether his \$5,000 had been a loan or whether ". . . it was your gracious way of encouraging him in his declining years?"⁸⁹ Carnegie replied, "I was only too happy to

⁸⁵Note attached by Lewis to Letter of Herman Haupt to Lewis M. Haupt, February 1905, Haupt Papers, Box 19.

⁸⁶Ibid.; Boston Globe, December 24, 1905.

⁸⁷Haupt's body was taken off the train at Newark and later shipped to Philadelphia for services. At the time of his death, Haupt was the oldest living graduate of West Point. Chapman, "Haupt," IV-6 & 7, p. 1.

⁸⁸Statement in Re Estate of Herman Haupt (Deceased), by Lewis M. Haupt, n.d., Haupt Papers, Box 19.

⁸⁹Lewis M. Haupt to Carnegie, December 21, 1905, Haupt Papers, Box 9.

comply with his request and would gladly have given him much more had he asked for it," and canceled the debt.⁹⁰

The sale of Haupt's remaining securities proved to be the most difficult task of settling the estate. Lewis worked almost a year before he found buyers for a portion of them. He sold the St. Anthony Park Bonds to the Great Northern Railroad and some of the National Nutrient stock to several different people, which was sufficient to pay the remainder of the estate's debts. After lifting all the encumbrances, there remained a mere \$2,076.36 in cash.⁹¹

Lewis also had trouble with the distribution of Haupt's effects. Haupt's will contained explicit instructions for the distribution but omitted Jacob and Herman, Jr.⁹² Jacob had released Haupt's estate from all claims for \$500 in 1891; Herman was omitted because he and his father had been estranged since the early 1890's.⁹³

⁹⁰Carnegie to Lewis M. Haupt, December 27, 1905, Haupt Papers, Box 9.

⁹¹Statement in Re Estate of Herman Haupt (Deceased), by Lewis M. Haupt, n.d., Haupt Papers, Box 19; Rush B. Wheeler, St. Paul attorney, to Lewis M. Haupt, September 14, 1906, Haupt Papers, Box 9.

⁹²Will of Herman Haupt, March 29, 1901.

⁹³Herman, Jr., had accused Haupt of showing favoritism towards Lewis in the distribution of his assets. Haupt ceased making payments to Herman in 1892. But up until that time he gave him \$7,569. It is true Lewis received more, \$10,579, for the same period, but Lewis spent a great deal of time working on Haupt's affairs and trying to get him out of debt. Of the eight children, Herman received the third highest amount. Payments made to Children by Check since May 6/81, Haupt Papers, Box 18; Haupt was extremely sensitive about his name, communicating this feeling to his wife

Moreover, a squabble broke out among all the children over the allocation of the rental income from Haupt's home in Washington. It took years before a compromise was worked out that reinstated the two disinherited sons and settled the problem of the house.⁹⁴

The bulk of Haupt's estate consisted of National Nutrient stock which had little or no value. Thus, Lewis had no trouble distributing it as Haupt wished. But the stock turned out to be the bonanza of the whole estate, for it eventually paid dividends. In 1914, Borden's entered into a royalty agreement to acquire the patents held by the company and agreed to pay a minimum of \$20,000 per year plus a fee for each pound of condensed milk powder manufactured under the patents. One of the Campbell sons, Charles, decided he would repay Haupt's initial investment out of these royalties. He made payments to the Haupt heirs through Herman Haupt Chapman until the patents expired in 1930.⁹⁵ Haupt was at least proven right in his prediction of a bright future for condensed milk; only his timing had

forty years before his death: "I used to fear that I had made a mistake in giving my name to Herman for fear that he would not do it credit. . . ." Herman Haupt to Anna Cecilia Haupt, April 21, 1866, Haupt Papers, Box 5; Herman Haupt, Jr., moved to Chicago, then Texas, and finally Florida where he died in 1920. He never married. Mrs. Susan Haupt Adamson to author, May 24, 1968.

⁹⁴Statement in Re Estate of Herman Haupt (Deceased), by Lewis M. Haupt, n.d., Haupt Papers, Box 19.

⁹⁵Chapman, "Haupt," IV-5, pp. 15-16.

been wrong.

Haupt wrote several years before his death, "I have always been a railroad man myself, . . ." ⁹⁶ It was an accurate summation. Haupt entered the business almost at its very inception and lived to see the railroad corporations reach their zenith. But Haupt fulfilled a unique role in the development of the railroads. His special expertise was confined to the location, construction, and initial management of the roads. He provided the badly needed technical and administrative skills to establish a basis for further corporate growth. But when that growth took place, Haupt was not present. He left the Pennsylvania Railroad, the Military Railroads, the Pennsylvania's southern system, and the Northern Pacific as soon as they were complete and their operations became routine.

Haupt was not a corporate man. He did not work well even within the company organizations he devised. He tolerated no interference by superiors with his managerial decisions. Haupt felt that he knew how to maintain and operate a railroad to the peak of its efficiency. But he left the financial and political problems of the line to others. The predictable result was friction with the road's hierarchy, as shown by Haupt's running battles with the board of directors of the Pennsylvania Railroad, with

⁹⁶Haupt to Carnegie, January 6, 1902, Adamson Collection.

the authorities in Washington, again with the officials of the Pennsylvania, and finally with Henry Villard. Haupt lost all of these battles, not because his policies were wrong, but because they were correct. They resulted in the formation of technically and organizationally sound roads. Haupt became expendable, and his position was filled by a less headstrong individual more amenable to working within a corporate structure.

When Haupt worked outside of the technical end of the railroad business, he was less sure of himself. His only major success in an outside venture was the Tide Water pipeline. But even here, Haupt left as soon as the feasibility of the project was proven. His largest outside venture, the Hoosac, called forth from Haupt not only technical talents but entrepreneurial and political talents as well, and here he was tripped up. The eventual completion of the tunnel proved the soundness of his technical plans and he scored some short-run successes in finance and politics as well, but he was unable to handle the pressure from the state and his partners over the long run. Haupt tried from 1856 to 1905 to make the transition from engineer and administrator to entrepreneur, but was never completely successful. His technical curiosity far outweighed his acquisitive urge. He tended to base his investment decisions on the technical soundness of an innovation rather than its potential to attract capital. The result was that he was

continually involved in undercapitalized projects that left him with a pocketful of worthless securities.

Haupt's failure to perform simultaneously as an engineer and entrepreneur made him a disillusioned man towards the end of his life. But in this attempt Haupt fulfilled two vitally necessary roles in the burgeoning nineteenth century American economy. He provided the requisite technical skills needed to translate financiers' dreams into reality and the skills to manage the properties intelligently, and he was willing to risk his capital in various ventures in search of greater profits. There is little doubt that had Haupt withdrawn from the Hoosac contract in June 1856, when he was considering such a step, that the tunnel would not have been completed. Haupt's career, as judged by his contribution to the American economy, was resoundingly successful, but he thought otherwise. He once wrote, "I have been led inevitably into a scrap of lost history. . . ." ⁹⁷ He deserves better.

⁹⁷Herman Haupt to Charles Edgar Haupt, May 24, 1904, Association of American Railroads Library.

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EXAMINATION AND THESIS REPORT

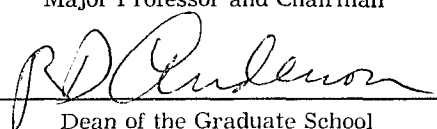
Candidate: James Arthur Ward III

Major Field: History

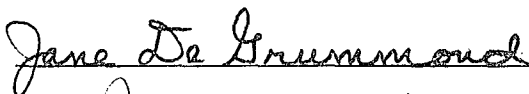
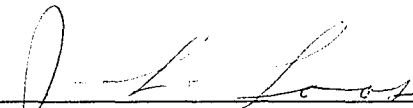
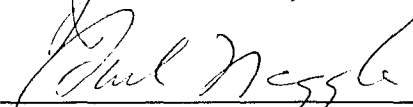

Title of Thesis: THAT MAN HAUPT: A BIOGRAPHY OF HERMAN HAUPT

Approved:


Major Professor and Chairman


Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination:

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